KM596 thermal motor 230 V

The **KM596 thermal motor 230 V** is a thermoelectric actuator for opening and closing unit valves and valves on heating circuit distributors of surface heating and surface cooling systems. The main application is energy-efficient individual room control in the area of building technology and building automation. The sequencing of the KM596 230 V takes place with a 230 V room temperature controller with a two-point output or pulse-width modulation, e.g. the KELOX individual room controls.

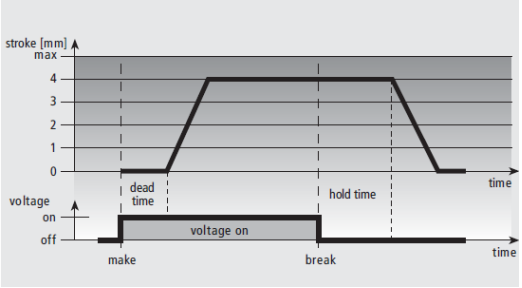
Performance features

- Modern design
- Travel 4.0 mm
- Version in currentless-closed (NC) or currentless-open (NO)
- 1 watt power consumption
- Full compatibility with current KELOX UFH distributors
- Easy plug-in assembly
- 360° assembly position
- Patented 100% protection with leaking valves
- “First-Open” function
- M30 threaded adaptor in the scope of supply
- Alignment aid on the valve
- Compact design, small dimensions
- All-round functional display
- Silent and maintenance-free
- High functional reliability and life expectancy
- Overvoltage guarantee

Function

The adjustment mechanism of the thermal motor works with a PTC-heated wax element and a pressure spring. The wax element is heated up by applying the operating voltage and this moves the integrated plunger. The force created by the movement is transferred to the valve plunger and thereby opens/closes the valve.

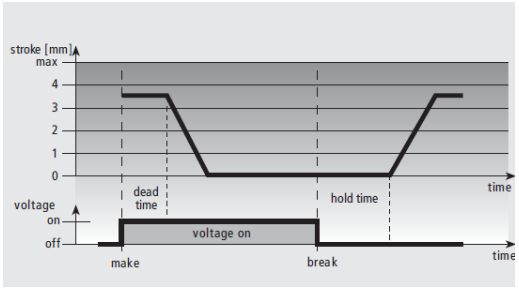
NC version: Currentless-closed (valve closed)



With the currentless-closed version, the valve is opened evenly by the plunger movement when the operating voltage is switched on – after the dead time has elapsed.

By switching off the operating voltage and after the dwell time as elapsed, the valve is closed evenly by the closing force of the pressure spring.
The closing force of the pressure spring is coordinated with the closing force of commercially available valves and keeps the valve closed in a currentless state.

NO version: Currentless-open (valve open)

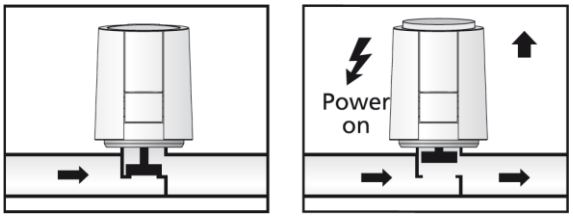


With the currentless-open version, the valve is closed evenly by the plunger movement when the operating voltage is switched on – after the dead time has elapsed.

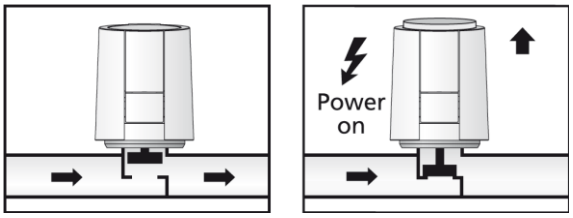
By switching off the operating voltage and after the dwell time as elapsed, the valve is opened evenly by the closing force of the pressure spring.

Function display

The function display (all-round display) of the KM596 thermal motor is identifiable at a glance and in the dark, it can be felt whether the valve is open or closed.



- With the **NC version: Currentless-closed** extends the function display when the valve opens.



- With the **NO version: Currentless-closed** retracts the function display when the valve opens.

"First-Open" function (only for NC versions)

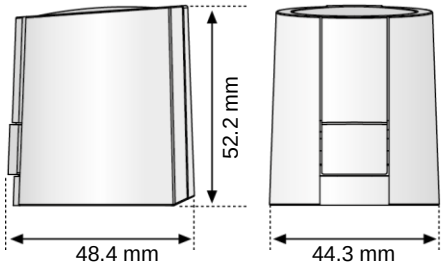
The KM596 thermal motor currentless open in the delivery state due to the "First-Open" function. As a result of this, the heating mode is made possible in the building shell phase, even if the electrical wiring of the individual room control is not yet completed. With the later commissioning, the "First-Open" function will automatically be unlocked by applying the operating voltage (longer than 6 min.) and the actuator is fully functional.

Technical data

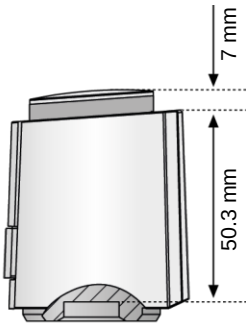
Operating voltage	230 V AC, +10%...-10%, 50/60 Hz
Start-up current, max.	< 550 mA for max. 100 ms
Operating output	1 W 1)
Travel	4.0
Actuating power	100 N +5 %
Media temperature	0 to +100°C 2)
Storage temperature	-25°C to +60°C
Ambient temperature	0 to +60°C
Protection class	II
Degree of protection	IP 54 3)
CE conformity according to	EN 60730
Housing material / colour	Polyamide / light grey (RAL 7035)
Connection line / colour	2 x 0.75 mm^2 PVC / light grey (RAL 7035)
Line length	1 m
Weight with power cable (1 metre)	100 g
Overvoltage resistance in accordance with ÖNORM EN 60730-1	2.5 kV:

1) measured with precision power meter LMG95
2) depending on the adaptor, also higher
3) in all assembly positions

Dimensions



Dimensions

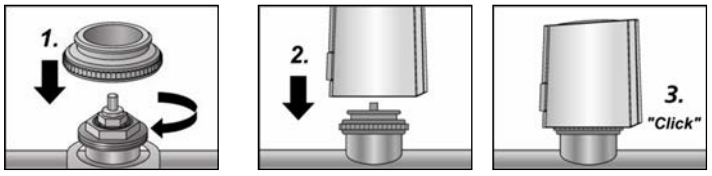


Installation height

Installation instructions

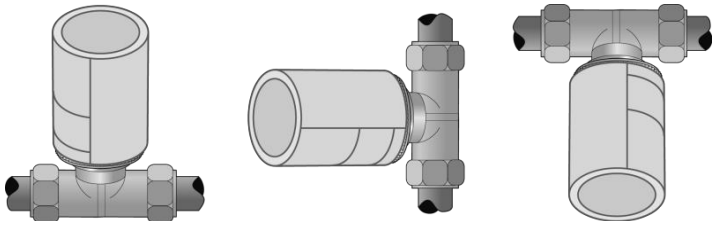
Assembly with valve adaptor

The included valve adaptor guarantees the perfect adaptation of the drive unit to current KELOX UFH heating circuit distributors. The KM596 thermal motor is attached easily using plug-in assembly onto the valve adaptor, which has previously been installed by hand.



- First, the adaptor is screwed onto the valve by hand.
- The KM596 is positioned vertically by hand on the valve adaptor.
- Using vertical pressure by hand, the KM596 locks into the valve adaptor easily and audibly.

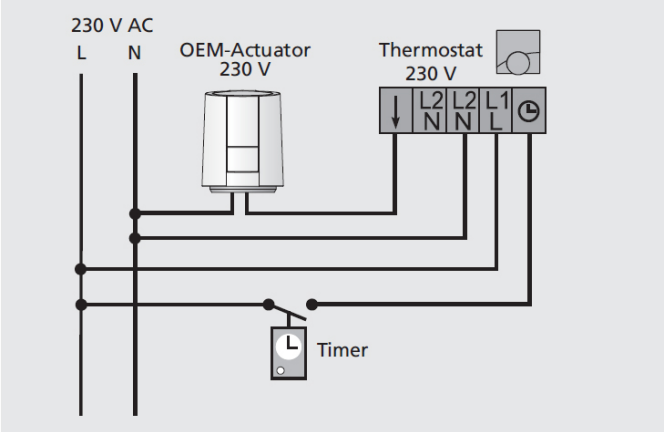
Assembly position



vertical **horizontal** **“upside-down”**

The KM596 should preferably be installed in a vertical or horizontal assembly position. With “upside-down” assembly, specific circumstances (e.g. sewage water) may reduce the service life.

Electrical connection



For the Installation of a 230 V system, we recommend the following cables:

Sheathed cable:	NYM 1.5 mm²
Ribbon conductor:	NYIF 1,5 mm²

Subject to technical changes.