

Read all the installation instructions before starting installation.

The equipment consists of:

1. ThermOmatic K, Control centre/Motor
2. Installation fittings, universal
3. Flow sensor, with 1.5 m cable
4. Network adapter, 230–24 V AC with 5 m cable
5. Clamps and insulation for flow sensor

This is how Thermomatic K works

Thermomatic K is abbreviated to TK throughout the text.

TK strives to maintain the set temperature.

TK regulates depending on the extent of regulation deviation.

In the event of deviation by less than 1°C, it does not make any adjustments.

In the event of deviation by 1–2°C, TK makes an adjustment once per minute.

In the event of deviation greater than 2°C, it makes adjustments every ten seconds.

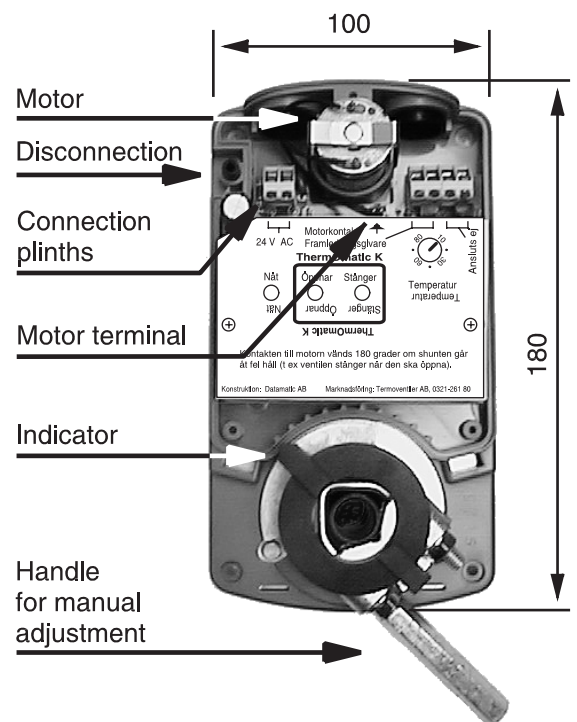
The greater the deviation, the longer the motor runs.

The open or closed indicator lamp illuminates when the motor is in operation. When the motor reaches a limit position, the relevant indicator lamp flashes.

In the event of a fault with the flow sensor or cable to it, the network lamp flashes 5 times per second. TK then closes the mixing valve and then opens for 30 seconds, which corresponds to a 25 % opening of the mixing valve.

Order of installation

- 1 **Install K on the mixing valve.** See separate instruction.
- 2 **Connecting the power cable to the circuit board.**
Connect the supplied power cable to the circuit board first; otherwise there is a risk that the two free ends will short-circuit the network adapter. Then clamp the cable so that the terminal block on the circuit board is not loaded.
- 3 **Connecting the network adapter.**
Connect the network adapter to a 230 V wall socket.



4. Initial start-up.

The initial start-up must be performed without the flow sensor connected. At initial start-up without sensor, the network lamp will flash quickly, which indicates that the sensor is missing.

5. Checking the direction of rotation.

Disconnect the motor using the disconnection button and turn the mixing valve and motor to an intermediate position. Insert the network adapter into the wall socket. When TK receives current, without the sensor connected, it will operate in the closed position and then open for 3 seconds. Check that this closure corresponds with the mixing valve's closed position. If it does not, disconnect the motor contact and turn it half a turn. Try again.

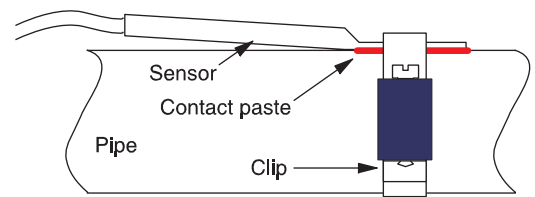
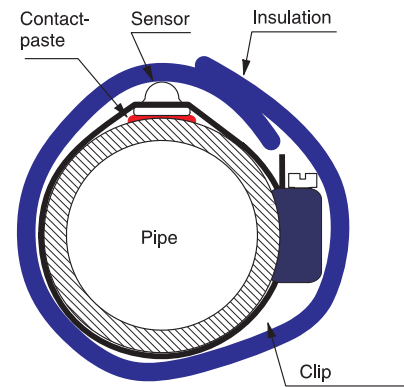
6. Installation of flow sensor.

To create further protection against damage on the circuit board due to lightning, install the supplied lightning protection on the flow sensor's terminal block. This protection is not obligatory for the function on TK, only an extra protection.

Connect the sensor in the marked terminal. When the sensor has been connected, TK should work normally.

7. Manually setting the motor.

Depress the release and turn the motor to the desired position. If the motor is to remain in that position, the current to TK must be cut by removing the network adapter from the wall socket.



Fault tracing

For ease of installation and fault tracing, TK immediately goes into start up mode for 3 minutes every time the power is connected.

In the event of a fault with the flow sensor or cable to it, the network lamp flashes 5 times per second. TK then closes the mixing valve and then opens for 30 seconds during normal operation, which corresponds to a 25 % opening of the mixing valve. In start-up position, the mixing valve opens for 3 seconds.

Fault	Probable cause	Action
The network lamp flashes 5 times/sec.	Fault in flow sensor, wiring or the connection. May even be due to fault in the lightning protection.	Check that the wiring is not broken and is connected correctly. Measure resistance with separate sensor. At +25°C it should be 50 kOhm and at +50°C it should be 20 kOhm. Remove the lightning protection.
The mixing valve gives out heat even though Thermomatic K is in the fully closed position.	Motor closed position and mixing valve 0 position not synchronised.	Remove the motor from the mixing valve. Set the mixing valve to 0. Reinstall the motor fully closed.
The motor will only open or close.	Incorrect direction of rotation Fault in the lightning protection.	Change the motor's direction of rotation by turning the motor contact 180°. Remove the lightning protection.
The mixing valve does not open even though it should.	Flow sensor mounted on the hot water pipe.	Move the sensor according to the mixing point.
The motor shunts between open and closed.	The sensor is positioned too far from the bypass valve. The sensor has poor contact with the pipe.	Move the sensor closer to the mixing valve. Tighten the sensor so that contact with the pipe is better.

Installing on the Mixing valve

Thermomatic K is abbreviated to TK throughout the text.

Prior to installation

Before installing, always check in which position the mixing valve is closed and mark this position clearly on the mixing valve shaft.

TK is designed for mixing valves with a 90° opening angle. If the mixing valve has an 180° opening angle, use Thermomatic Combi with ESBE 92-motor.

ESBE 3G mixing valve is illustrated.

On ESBE mixing valves, the port that the bevel points at closes. NOTE Other mixing valve manufacturers have different installation procedures.

TK can be installed in any position.

Adjustment for clockwise or anticlockwise mixing valves

TK is factory set and connected so that it opens clockwise. If the mixing valve also opens clockwise, set the mixing valve in the closed position and lock the TK mounting bracket in this position against the shaft extension.

If the shaft opens anticlockwise, set the mixing valve to the fully open position before locking TK. Turn the motor contact 180° to change the direction of movement.

Apply the OPEN and CLOSED labels to the indicator arrow.

Disconnecting the motor

The motor can be disconnected and operated by hand to manually set the mixing valve in the event of a power cut etc.

Depress the disconnection button and turn the mixing valve at the same time. When power resumes, TK starts to regulate automatically.

Note that if the motor is released and operated by hand from one limit position with the current on, the network adapter must be removed and inserted again in order to restart TK.

