

AUTOMIX 10

MOUNTING AND OPERATING INSTRUCTIONS

GENERAL FUNCTIONS

AUTOMIX 10 is an advanced electronic temperature control for hydronic radiator and radiant floor heating systems. It can easily be integrated into an existing heating system. The main supply and all sensors have plug-in connections. The quick do-it-yourself installation saves on labor charges.

AUTOMIX 10 works continuously and proportionally. Through impulses from the sensors the controller directs the motor to keep the valve plug in the position that corresponds to the actual heat requirement of the house.

DELIVERY PARTS OF ART.NO 1210

1. Valve motor AUTOMIX 10 with built-in electronics and mounting kit
2. Adapter 230/18 VAC 200 mA with 1,7 m wire
3. Supply water sensor T1 with 1 m wire
4. Outdoor sensor T2 with 15 m wire

OPTIONALS

5. Room sensor AUTOMIX 10RB with 15 m wire, art.no 1211

AUTOMIX 10RB should be installed if the room temperature of the house fluctuates because the building is affected by e.g. sunlight or wind. With AUTOMIX 10 RB the room temperature can be set between 12°C and 27°C.

6. Remote control AUTOMIX 10RC with 15 m wire, art.no 1212

Remote control AUTOMIX 10RC is designed for floor heating systems. The remote control provides a convenient way to adjust the supply water temperature without going to the boiler room.

MOUNTING

Supply water sensor T1

Supply water sensor T1 is fastened to a non-insulated part of the supply pipe after the mixing valve. For optimum temperature measuring the pipe and sensor have to be insulated afterwards.

Outdoor sensor T2

Outdoor sensor T2 is to be mounted on the north or northwestern outside wall at least 3 metres above ground. The outdoor sensor must never be mounted above a window or near an air valve as this would influence the sensor.

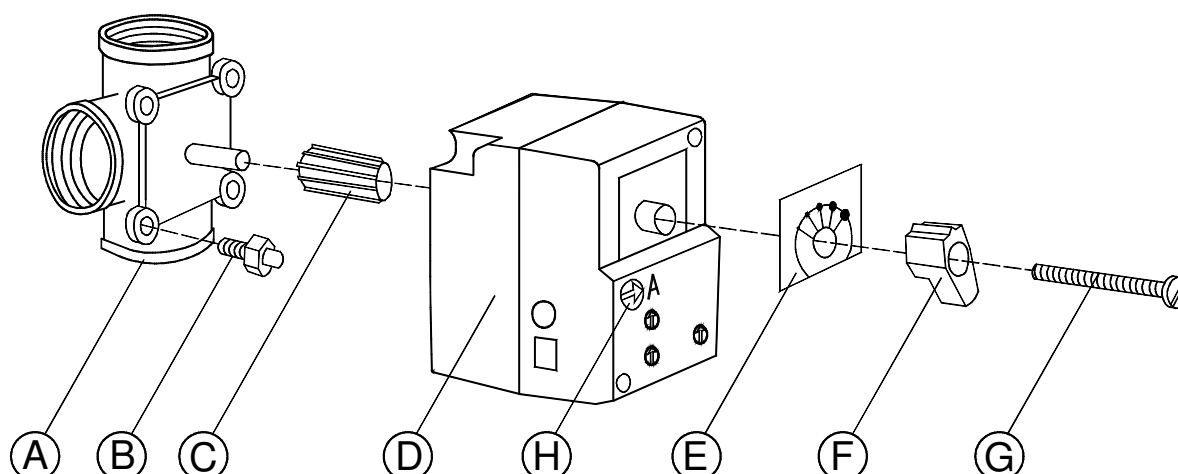
Room sensor AUTOMIX 10RB

Room sensor AUTOMIX 10RB is mounted at a place with an average temperature of the house. The room sensor should not be placed where it can be affected by direct sunlight, heat radiation or draught. Radiators with a thermostatic valve in the same room as the room sensor must be max. opened to obtain a correct temperature control.

Remote control AUTOMIX 10RC

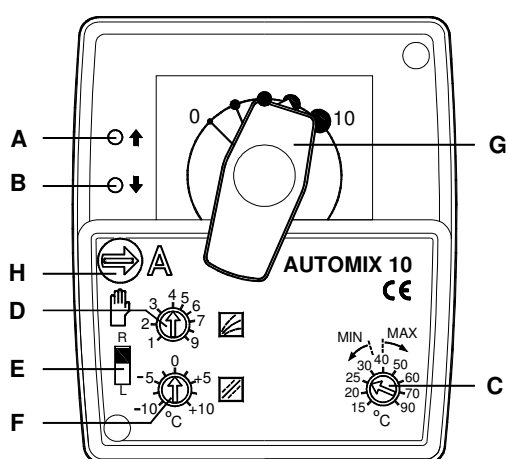
Remote control AUTOMIX 10RC is mounted at a convenient place for operating.

VALVE MOTOR AUTOMIX 10



1. Turn the spindle of valve **A** counter clockwise to the end position (open or closed). Remove the knob/handle without changing the position of the spindle.
2. Screw the anti-rotation stop **B** into a convenient hole on the valve (if necessary remove an existing screw).
3. Slide linkage **C** over the valve spindle. Place motor **D** onto linkage **C** until the anti-rotation stop **B** engages into the slot of the motor.
4. On delivery the motor is in the anti-clockwise position. Turn scale **E** according to the open/closed direction of the valve.
5. Place handle **F** onto the motor ensuring that the arrow points to the left end position of the scale. Tighten the whole unit by means of screw **G**.
6. Using a screwdriver (No.3) turn the disengaging button **H** from "A" to "HAND" position and rotate the valve with handle **F** from one end position to the other.
It is important that the motor can be moved from one end stop to the other (90°).
7. Turn disengaging button **H** back to "A" which is the AUTOMATIC position.

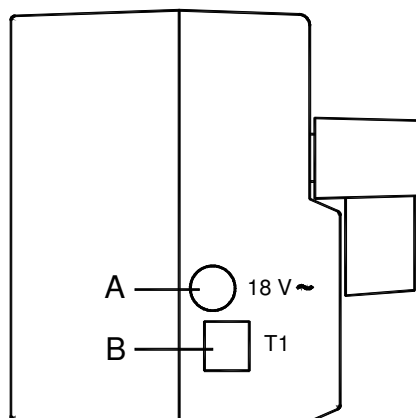
FRONT PANEL OF MOTOR



- A.** Red LED – valve opens
- B.** Green LED – valve closes
- C.** Min. and Max. supply water temperature
- D.** Graph setting
- E.** Right or Left turning direction of motor
- F.** Parallel displacement of graph
- G.** Handle/Indicator of valve position
- H.** A = Automatic position, HAND = Manual position

WIRING

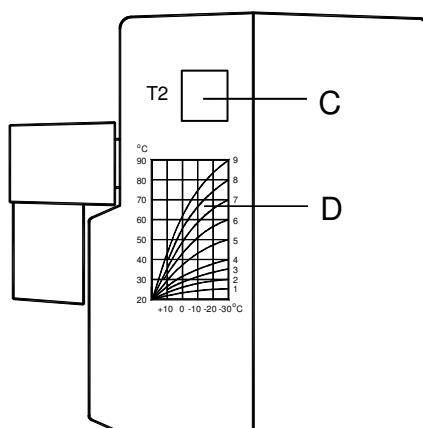
AUTOMIX 10 is delivered with wires. The main supply and all sensors have plug-in connections. The quick do-it-yourself installation minimizes installation problems.



Left side of motor

A. Adapter

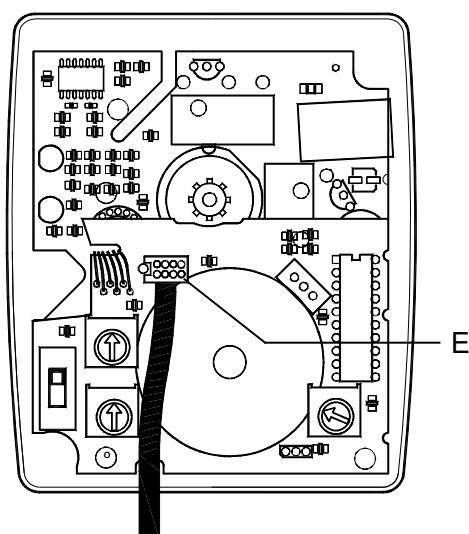
B. Supply water sensor T1



Right side of motor

C. Outdoor sensor T2

D. Graphs



Motor under the cover

Connection **E** is placed under the motor cover.

Room sensor AUTOMIX 10RB and remote control AUTOMIX 10RC are connected to **E**.

The cover has edge cuttings for the wire.

GRAPH SETTING

The regulating graph for a certain house is dependent on dimensions, location, insulation etc. Therefore it is not possible to decide on a graph in advance. It has to be tried out. The graph is set with knobs **D** and **F**. The knobs work steplessly.

Initial setting

Regulating graph for radiator heating, set knob **D** on 5.

Regulating graph for floor heating, set knob **D** on 2.

Room temperature setting/parallel displacement

For parallel displacement / to obtain the desired room temperature use knob **F**. The supply water temperature can be raised or lowered steplessly by 10 °C from setting 0. A supply water temperature of 2,5 °C corresponds to 1 °C in room temperature.

Adjustments

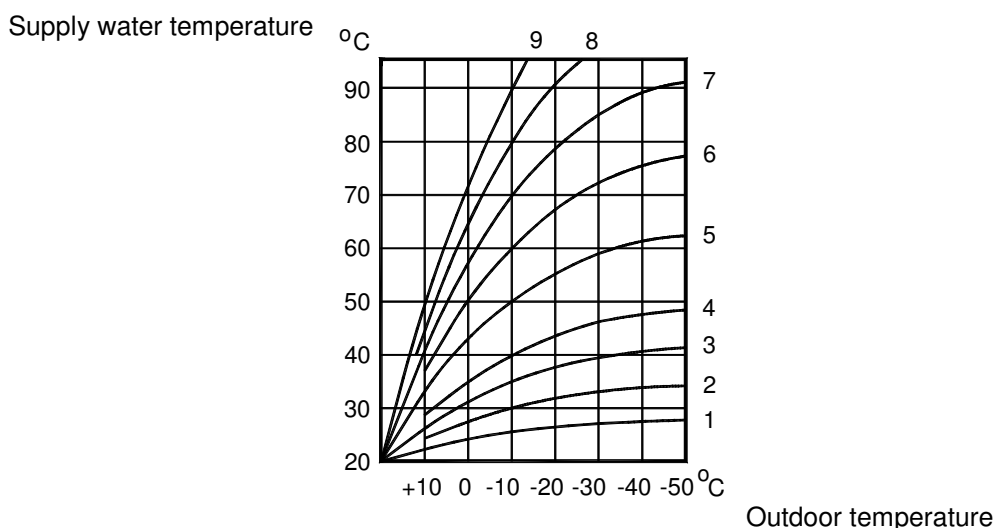
Should the room temperature rise with falling outdoor temperature: lower knob **D**
raise knob **F**

Should the room temperature fall with falling outdoor temperature: raise knob **D**
lower knob **F**

Make only minor changes with knobs **D** and **F**. When the house has an even room temperature despite fluctuating outdoor temperatures, the correct regulating graph has been obtained.

N.B! Heat affects slowly. When a temperature setting has been changed it takes several hours before the room temperature corresponds to the new setting due to dimensions of the heating system and the insulation of the house. A floor heating system responds even slower to a new setting than a radiator system.

REGULATING GRAPHS



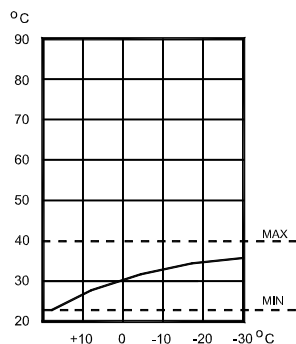
RIGHT OR LEFT TURNING DIRECTION OF MOTOR

Right or Left turning direction of the motor is selected with knob **E**. At delivery the motor opens the mixing valve clockwise. Knob **E** is at **R = RIGHT**.

If the mixing valve opens counter clockwise the knob **E** is to be moved to **L = LEFT**.

SETTING MIN. AND MAX. SUPPLY WATER TEMPERATURE

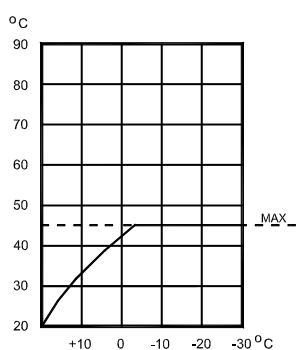
Min. supply water temperature can be set between 15°C – 35°C and max. supply water temperature between 40°C – 90°C. When min. supply water temperature is set to 30°C or below, the max. supply water temperature will automatically be 40°C. When min. supply water temperature is set above 30°C, the max. supply water temperature is automatically 45°C.



Setting of min. supply water temperature is used in radiant floor heating applications to obtain a comfortable floor temperature.

Min. supply water temperature is selected with knob **C**.

In the example graph 3 has been selected and the min. supply water temperature is set to 22°C. Max. supply water temperature will automatically be 40°C.



Setting of max. supply water temperature is used in hydronic radiator heating systems.

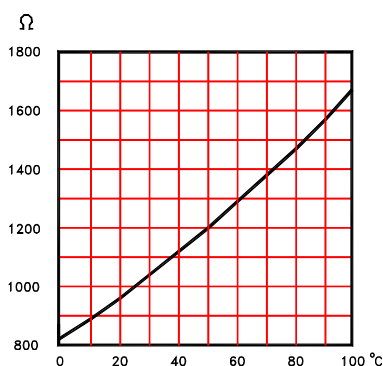
Max. supply water temperature is selected with knob **C**.

In the example graph 6 has been selected. Max. supply water temperature is set to 45°C.

SENSOR RESISTANCE

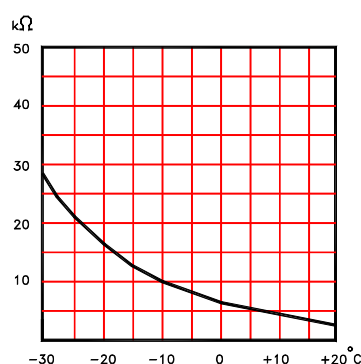
Sensor resistance is measured at the two middle wires of the 4-wire cable contact.

Supply water sensor T1



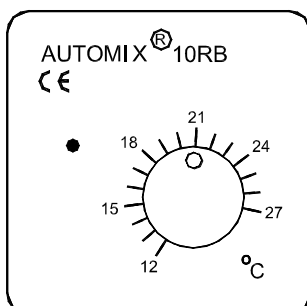
°C	Ω
0	820
10	889
20	962
30	1039
40	1118
50	1202
60	1288
70	1379
80	1472
90	1569
100	1670

Outdoor sensor T2



°C	kΩ
20	2,67
15	3,28
10	4,06
5	5,04
0	6,31
-5	7,93
-10	10,05
-15	12,84
-20	16,54
-25	21,40
-30	27,93

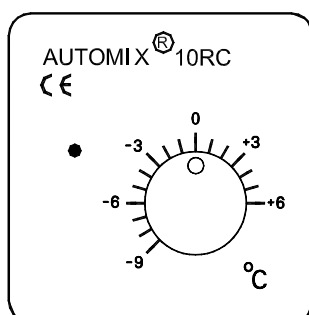
OPTIONALS



AUTOMIX 10RB is a room sensor for measuring and setting the temperature inside the house.

AUTOMIX 10RB should be installed if the room temperature fluctuates because the building is affected by sunlight or wind.

A green LED indicates that power is on. When the motor runs, the LED dims slightly.



AUTOMIX 10RC is a remote control designed for floor heating systems. It is used to conveniently adjust/parallel displace the heating graph. Supply water temperature can be lowered 9°C or raised 6°C. AUTOMIX 10RC corresponds to the function parallel displacement **F**.

A green LED indicates that power is on. When the motor runs, the LED dims slightly.

TECHNICAL DATA

Type of control	PI-control with microprocessor
Voltage	18 VAC 50/60 Hz
Adapter	230/18 VAC 200 mA with 1,7 m wire
Power consumption	3 VA
Torque	5 Nm
Angle of rotation	90°
Heating graphs	1 to 9, stepless
Parallel displacement	+/- 10°C supply water temperature, stepless
Min. supply water limiter	+15°C to +35°C supply water temperature
Max. supply water limiter	+40°C to +90°C supply water temperature
Room sensor AM 10RB	+12°C to +27°C room temperature, stepless
Remote control AM 10RC	-9°C to +6°C supply water temperature, stepless
Manual operation	Yes, in case of power failure
Protection class	IP 40
Dimensions	77 x 90 x 90 mm
Weight	0,53 kg