

# AUTOMIX 20

## MOUNTING AND OPERATING INSTRUCTIONS

### GENERAL FUNCTIONS

AUTOMIX 20 is an advanced electronic temperature control for hydronic radiator and radiant floor heating applications.

AUTOMIX 20 is ready for mounting and can easily be integrated in existing heating systems. The main supply and all sensors have plug-in connections.

AUTOMIX 20 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.

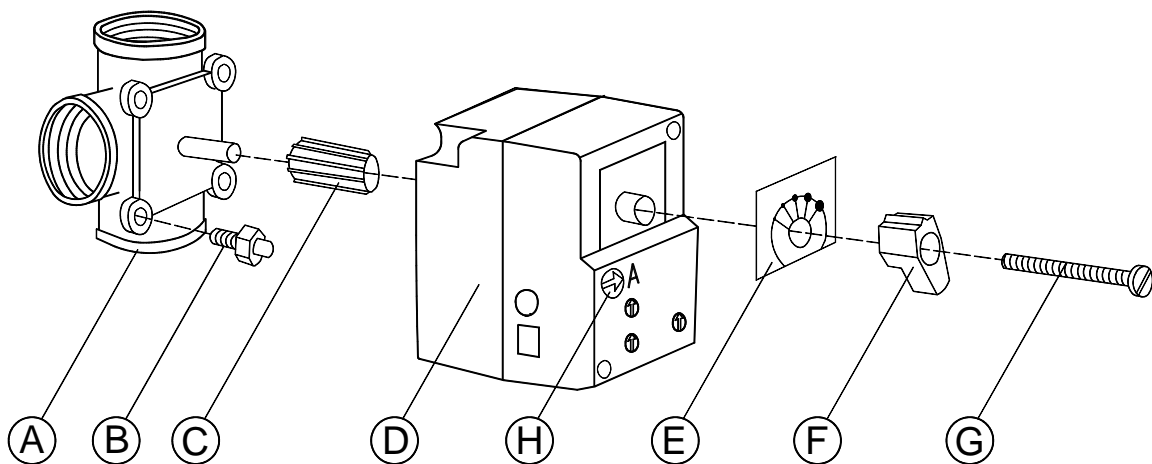
### FUNCTIONS

1. Electronic programmer with night set-back, daily program facility.
2. Adjustments for minimum and maximum supply water temperatures.
3. Adjustable freeze protection.
4. Room temperature setting 5°C – 26 °C
5. Adjustable night set back 1°C, 2°C or 3°C
6. Time setting 0,7 or 9 hours
7. Manual operation in case of power failure.

### AUTOMIX 20 INCLUDES

1. Room thermostat AM 20 with microprocessor and electronic programmer
2. AUTOMIX 52A valve motor 24 VAC 50/60Hz
3. Supply water sensor T1 with 1 m wire
4. Main wire 15 m.
5. Adapter 230/18 VAC 200 mA with 1.7 m wire.
6. Main wire 23 m, 40 m and 60 m (optional)

### MOUNTING OF VALVE MOTOR

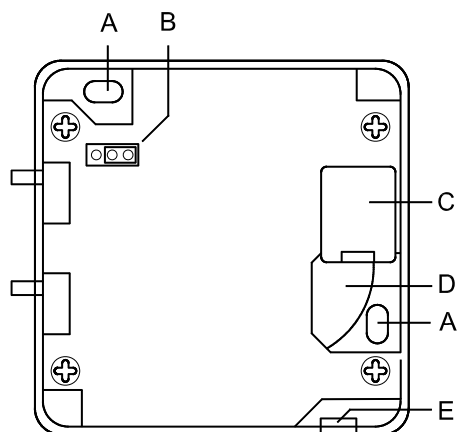


1. Turn the spindle of valve **A** counter clockwise to the end position (open or closed). Remove the knob/handle without changing the position of the spindle.
2. Screw the anti-rotation stop **B** into a convenient hole on the valve (if necessary remove an existing screw).
3. Slide linkage **C** over the valve spindle. Place motor **D** into 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.

## ROOM THERMOSTAT

Room thermostat AM-20 is to be 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 sunshine, heat radiation or draft. The best place is often the inside wall in living room. Radiator valves should be fully opened in the same room as room thermostat.

The main wire is connected to the connection block **C** through port **D** or **E**. After that the room thermostat is fastened on the wall with screws **A**.



- A. Screws
- B. Choice of turning direction
- C. Connection block
- D. Port for the main wire
- E. Alternate port for the main wire

## SUPPLY WATER SENSOR

Supply water sensor T1 is fastened on a non-insulated part of the supply pipe 1 m after the mixing valve. For optimal temperature measuring the pipe has to be insulated afterwards.

## TURNING DIRECTION OF VALVE MOTOR

At delivery the motor opens the mixing valve clockwise. See **case 1**. If the mixing valve opens in counter clockwise direction the control knob **B** in the room thermostat has to move to left. See **case 2**.

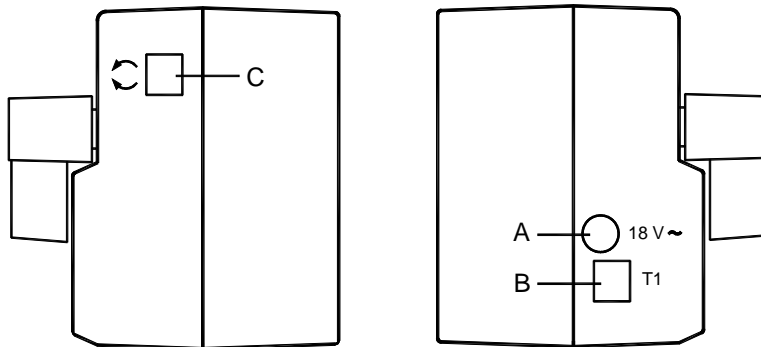


**Case 1** At delivery from factory, right



**Case 2** By moving knob **B**, left

## CONNECTIONS OF MOTOR



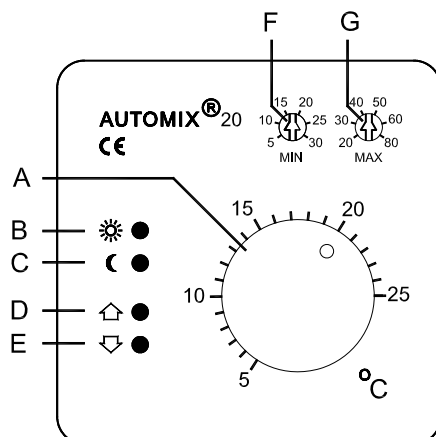
- A. Adapter
- B. Supply water sensor
- C. Room thermostat

## MAIN WIRE

At delivery the main wire is 15 m. The wire must neither be shortened nor lengthened. When necessary a longer main wire must be ordered.

- Order No. 1885 Main wire 23 m
- Order No. 1886 Main wire 40 m
- Order No. 1887 Main wire 60 m

## ROOM THERMOSTAT



- A. Room temperature selector
- B. Green LED Normal temperature on
- C. Yellow LED Night setback on
- D. Red LED The valve opens
- E. Red LED The valve closes
- F. Min. supply water temperature
- G. Max. supply water temperature

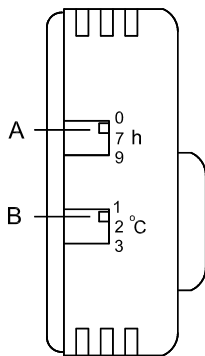
Desired room temperature is set with knob **A**. The green LED **B** is bright when the normal program is on and the yellow LED **C** is bright when the night setback is on. When the valve opens the red LED **D** is bright and when the valve closes the green LED **E** is bright. When both LED **D** and LED **E** are dark, the valve plug is not moving.

### Min.-and max. supply water temperature

Setting min/max supply water temperature is used in radiant under floor heating applications. To get a comfortable floor heating control the max. supply water temperature is set for example on 40°C and the min. temperature on 22°C.

In hydronic radiator heating the min. supply water temperature is set for example on 17°C and the max. on 60°C depending on dimensions, location, insulation etc. of the house.

## Night setback



A. Setback time interval slide switch

B. Night setback temperature setting slide switch

With slide switch **A**, one can select either no night setback (**0**), a 7-hour night setback period (**7**) or a 9-hour setback period (**9**). The slide switch must be moved from (**0**) to either (**7**) or (**9**) at the time at which the setback is to be initiated. For example, if a 7 hour setback is desired starting at 10:00 PM (22:00) the slide switch is moved from (**0**) to (**7**) at 10:00 PM, and the setback temperature will last 7 hours until 5:00 AM (05:00). If the switch had been moved to (**9**), the setback temperature will last 9 hours until 7:00 AM (07:00), at which time the control would return to normal room temperature. Once set, the setback time will repeat every 24 hours, until reset with the slide switch being returned to (**0**).

A setback temperature 1°C, 2°C or 3°C can be selected with slide switch **B**.

To change the time setting the knob **A** is set first on **0** then on desired setback period.

If the night setback function is in use after power failure the green and yellow LED starts to twinkle in turn. A new time setting must be done after power failure.

## TROUBLE SHOOTING

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

If the heating system should not work satisfactorily – check:

1. The boiler temperature is correct.
2. The power supply and condition of fuses.
3. The circulating pump is working.
4. The radiator and gate valves are open.
5. There is no air in the heating system
6. The mixing valve turns easily.
7. The knobs are in the correct position.
8. At least one radiator does not have a thermostatic radiator valve to guarantee circulation.
9. The room thermostat is placed in a suitable location.

## TECHNICAL DATA

- Voltage 230/18 VAC 50/60 Hz
- Power consumption 3 VA
- Angle of rotation 90°
- Torque 5 Nm
- Min. supply water temperature +5°C – +30°C
- Max. supply water temperature +20°C – +80°C
- Weight 1.0 kg