

ACTUATORS FOR MIXING VALVES AND REGULATING GROUPS

PERFORMANCE & DESIGN, ACROSS THE RANGE.



The Barberi's range is completed by the new weather-compensated actuator M16, also available with its dedicated room unit M95 for advanced system management. All models share the same modern and distinctive design, creating a consistent and instantly recognizable product family.

High performance and refined aesthetics come together to deliver the best combination of functionality, comfort and integration within the technical room.

PRODUCTS



P27T3 - CONSTANT TEMPERATURE ACTUATOR

The P27T3 actuator is a device used to operate the rotary mixing valves. It can be applied to all Barberi® mixing valves, 3 or 4-ways, apart from flanged mixing valves, and to all the DN 20, DN 25, DN 32, DN 40 and DN 50 motorizable groups. The fixed point actuator P27T3 allows the regulation at constant temperature of heating and cooling systems, as for example the control of the flow temperature at fixed point, the control of the return temperature to solid fuel generators with anti-condensation function, the fixed regulations on heat exchangers.

User friendly | Integrated sensor
For heating and cooling 5-90 °C | Fast coupling

pag. 3



M04.2 - PROPORTIONAL ACTUATOR

The M04.2 actuator is a device used to operate the rotary mixing valves. It can be applied to all Barberi® mixing valves, 3 or 4-ways, apart from flanged mixing valves, and to all the DN 20, DN 25, DN 32, DN 40 and DN 50 motorizable groups. The proportional actuator, combined to a specific modulating regulator, allows the regulation of the thermal medium in heating and cooling systems.

User friendly
0(2)-10 V, 0(4)-20 mA control
PWM control
Fast coupling

pag. 6



M16 - WEATHER COMPENSATED ACTUATOR

The M16 actuator is a device used for operating rotary valves and can be applied to all Barberi® 3 or 4-ways mixing valve models, excluding flanged mixing valves, as well as to all regulating groups in DN 20, 25, 32, 40 and 50 sizes. The actuator is equipped with an integrated controller which, by means of Pt1000 probes and an outdoor probe, performs weather-compensated control of the fluid temperature supplied to heating or cooling terminals.

Weather compensated regulation for heating and cooling
Weekly program
Settings via app in combination with M95 room unit
Fast coupling

pag. 9



M95 - ROOM UNIT

The M95 room unit allows the setting of the room temperature and communicates with the weather-compensated actuator in order to optimize the water temperature supplied to heating/cooling terminals. For use exclusively with the M16 motor; cannot be installed independently.

Remote managing of the working parameters
Settings via app

pag. 12

CONSTANT TEMPERATURE ACTUATOR P27T3

HOT OR COLD, FIXED.



FEATURES

- USER FRIENDLY
- INTEGRATED SENSOR
- FOR HEATING AND COOLING 5-90 °C
- FAST COUPLING

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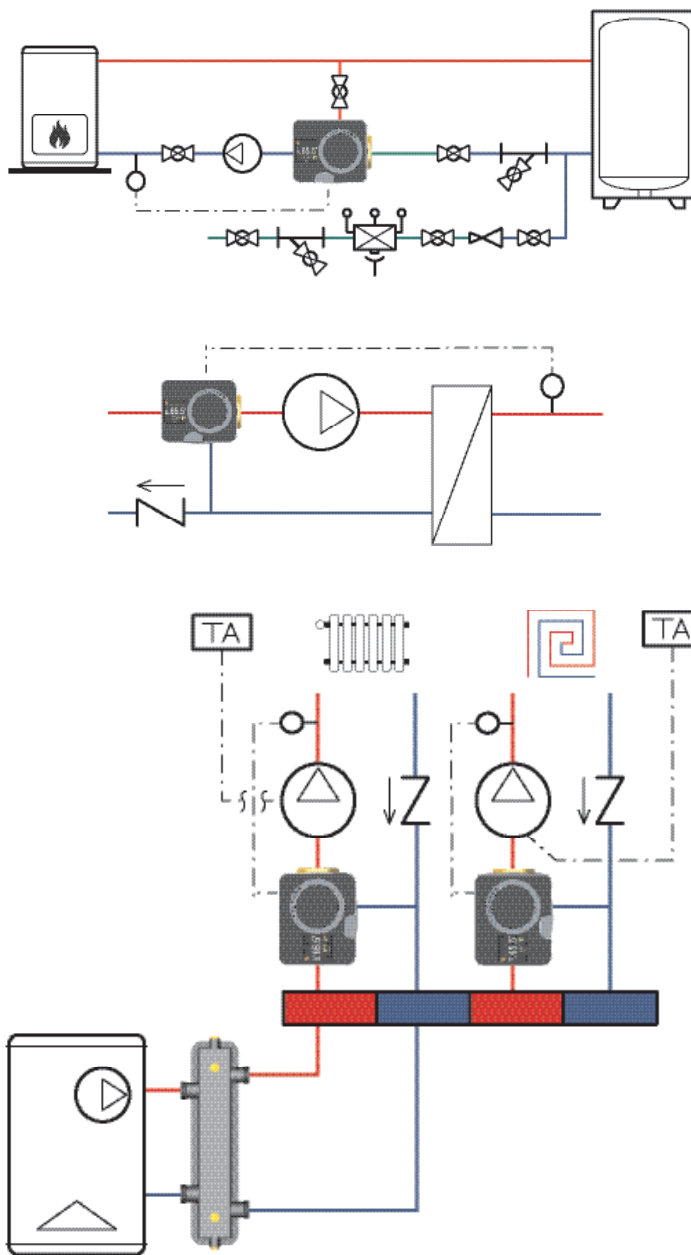
DESCRIPTION

P27T3 actuator is a device used to operate the rotary mixing valves. It can be applied to all Barberi® mixing valves, 3 or 4-ways, apart from flanged mixing valves, and to all the DN 20, DN 25 and DN 32 motorizable groups.

The actuator is equipped with an integrated control which, through a Pt1000 probe, adjusts the water temperature in a fixed point mode within the 5–90 °C range. The device is equipped with supply cable and European standard plug with 2 directly connected poles, integrated Pt1000 temperature probe, mixing valve adaptor and anti-rotation pin. The fixed point actuator P27T3 allows the regulation at constant temperature of heating and cooling systems, as for example the control of the flow temperature at fixed point, the control of the return temperature to solid fuel generators with anti-condensation function, the fixed regulations on heat exchangers.

The installation is simplified by means of a quick coupling system placed in the lower part of the actuator.

The buttons for setting the working mode are placed under the knob. The actuator is a “plug and play” type: it's only necessary to install it and connect it to the electrical current. It does not require further controllers as it is already equipped with a probe and all the control parameters can be set using the buttons located under the knob. If necessary, by pressing the clutch button, the actuator can be set to the manual mode: the operation unlocks the gear system and makes it possible to manually rotate the actuator and the connected valve.



PRODUCT CATALOGUE

P27T3

Actuator for mixing valves, rotation angle 90°, for 3 point regulation with integrated probe and temperature regulator. Temperature adjustment range 5–90 °C. Complete with mixing valve adaptor, anti-rotation pin, Pt 1000 probe (0,5 m cable), contact probe holder, integrated Shuko electrical plug (2 m cable).

Temperature adjustment range: **5–90 °C**

Torque: **5 N·m**

Protection class: **IP 42**

Frequency: **50 Hz**

Power consumption: **5 VA**



Code	V	Running time [s]	Nr. poles	Cable [m]		
P27 230 010 T3	230	120	2	2	1	4

HIGHLIGHTS

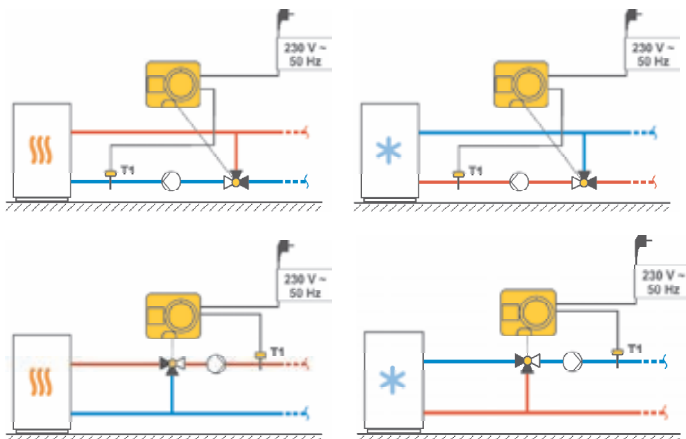
USER FRIENDLY

The buttons under the knob allow to select the working mode in a fast way:

- "heating or cooling" program

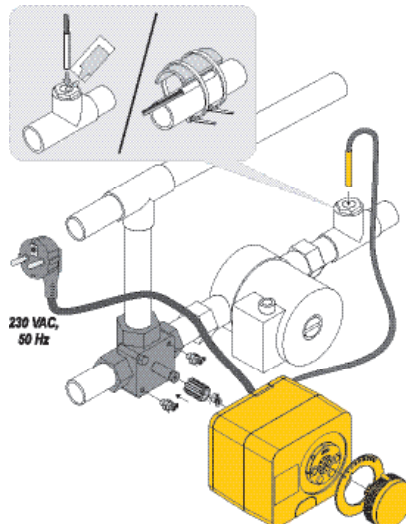


- sub program "return temperature control" or "flow temperature control".



FAST COUPLING

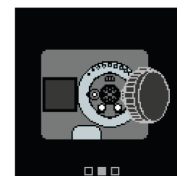
After screwing the adaptor to the mixing valve stem, the actuator is locked to the valve through a fast "click" system, placed on the lower part, without using any further screw.



Symbol	Description
	Heating.
	Cooling.
	Valve rotation direction counter clockwise.
	Valve rotation direction clockwise.
	Manual operation - the clutch is activated.
	Sensor error.
	Requested temperature.
	Return-pipe temperature.
	Flow-pipe temperature.

TRADITIONAL CONTROL BUTTONS

The control buttons are placed under the knob to guarantee a better protection. They are traditional "push" buttons to make the parameter setting easier and more intuitive.



BUILT-IN SENSOR

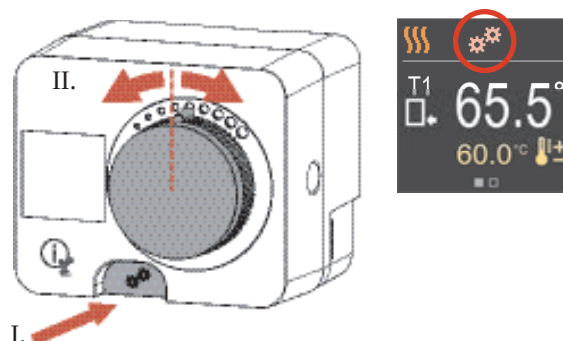
The Pt 1000 sensor is directly connected to the actuator.

5-90 °C ADJUSTMENT RANGE FOR HEATING AND COOLING

The actuator allows to regulate heating and cooling systems by quickly switching from one working mode to the other through the control buttons.

MANUAL ROTATION OF THE VALVE

The manual rotation of the valve can be activated by pressing the clutch button (I). The desired position of the mixing valve is obtained by rotating the knob (II). By pressing again the clutch button (I), the manual rotation is deactivated.





PROPORTIONAL ACTUATOR M04.2

UNDER CONTROL



FEATURES

- ▶ USER FRIENDLY
- ▶ 0(2)-10 V AND 0(4)-20 MA CONTROL
- ▶ PWM CONTROL
- ▶ FAST COUPLING

DESCRIPTION

Since the proportional actuator M04 got out of production, Barberi presents the new version M04.2.

As the previous version, M04.2 actuator is a device used to operate the rotary mixing valves. It can be applied to all Barberi® mixing valves, 3 or 4-ways, apart from flanged mixing valves, and to all the DN 20, DN 25, DN 32, DN 40 and DN 50 motorizable groups.

The actuator can be controlled with the following input signals:

- 0(2)-10 V
- 0(4)-20 mA
- PWM.

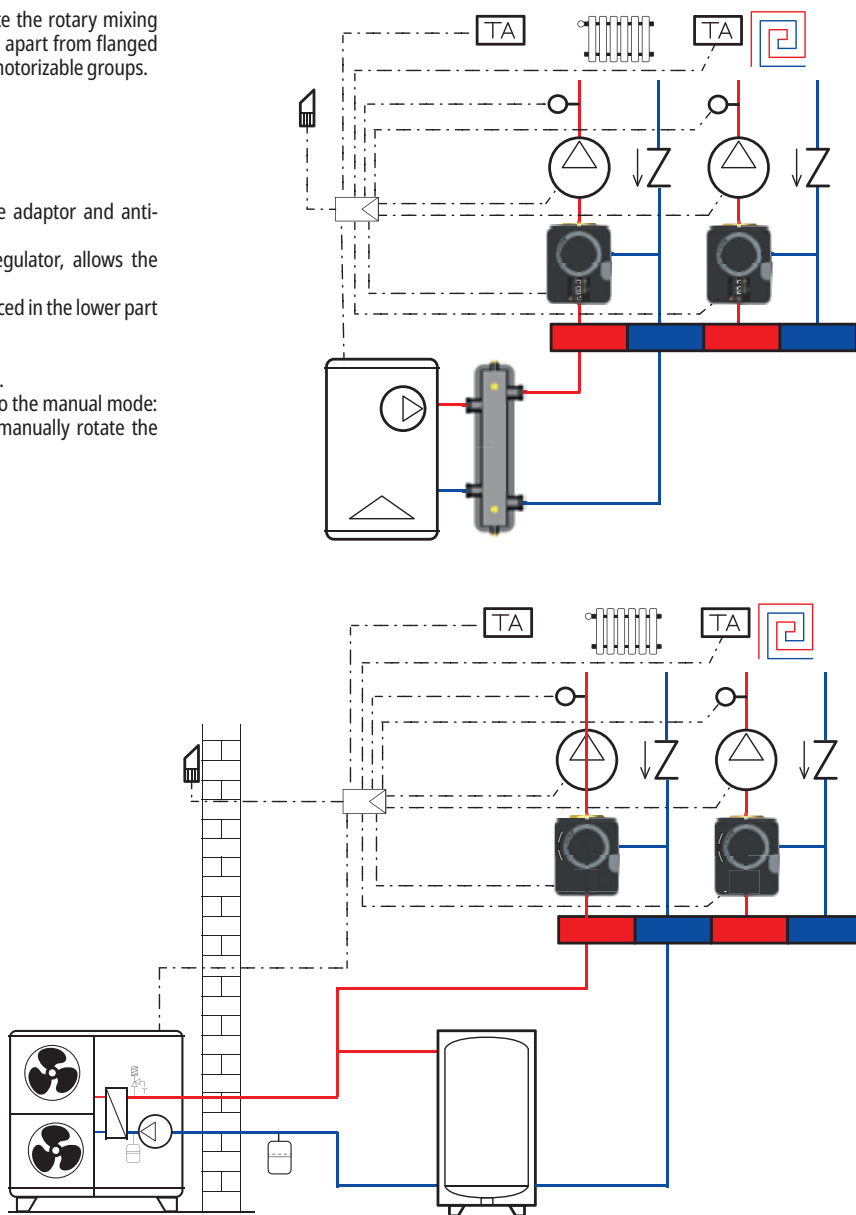
The device is complete with integrated supply cable, mixing valve adaptor and anti-rotation pin.

The proportional actuator, combined to a specific modulating regulator, allows the regulation of the thermal medium in heating and cooling systems.

The installation is simplified by means of a quick coupling system placed in the lower part of the actuator.

The buttons for setting the working mode are placed under the knob.

If necessary, by pressing the clutch button, the actuator can be set to the manual mode: the operation unlocks the gear system and makes it possible to manually rotate the actuator and the connected valve.



PRODUCT CATALOGUE

M04.2

Actuator for mixing valves, rotation angle 90°, proportional regulation 0 (2)-10 V. Complete with valve adaptor, anti-rotation pin, 2 m integrated cable

Torque: 5 N·m

Feedback: 0(2)-10 V/0(4)-20 mA/PWM

Protection class: IP 42

Frequency: 50 Hz

Power consumption: 5 W

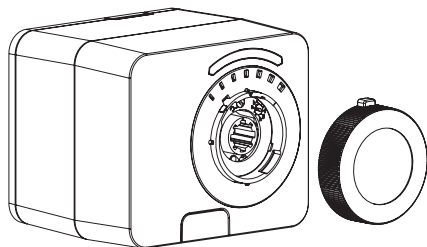


Code	V	Running time [s]	Nr. poles	Cable [m]		
M040103MAB2	24 ac/dc	60 - 120	4	2	1	10

HIGHLIGHTS

USER FRIENDLY

Unlike the previous model, in the new M04.2 version the working settings can be done externally only, without the need of opening the actuator case to access the inner dip-switches.



The trims under the knob allow to select the working mode in a fast way:



- valve rotation direction to increase the thermal load transferred to the secondary system;



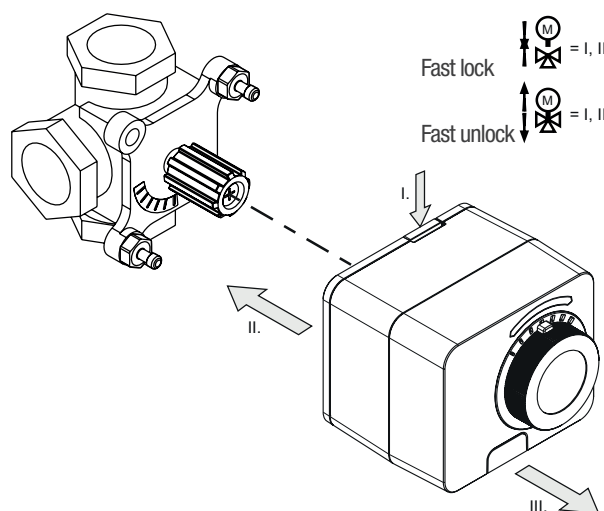
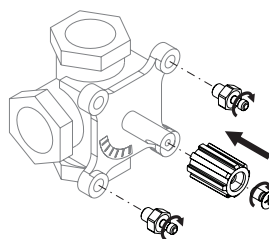
- valve running time and type of control input according to the various combinations shown in the following table:

- running time 60 o 120 s
- input signal at the inlet (valid for both the running times):
 - 0-10 V
 - 2-10 V
 - 0-20 mA
 - 4-20 mA
 - PWM

Signal [s]	0÷10V	2÷10V	0÷20mA	4÷20mA	PWM
60	a	c	e	g	i
120	b	d	f	h	j

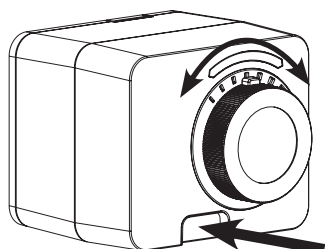
FAST COUPLING

After screwing the adaptor to the mixing valve stem, the actuator is locked to the valve through a fast “click” system, placed on the lower part, without using any further screw.



MANUAL ROTATION OF THE VALVE

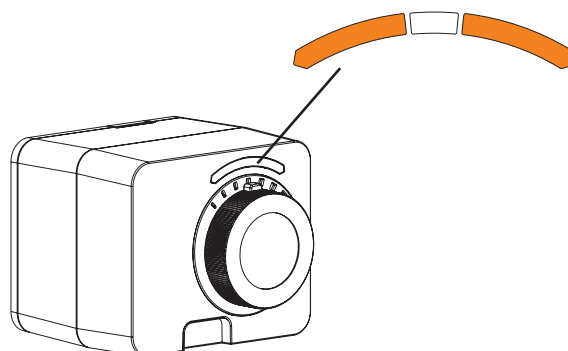
The manual rotation of the valve can be activated by pressing the clutch button. The desired position of the mixing valve is obtained by rotating the knob. By pressing again the clutch button, the manual rotation is deactivated.



INDICATOR LIGHTS

The indicator lights, placed around the knob, show the following information:

- rotation in clockwise and anti-clockwise direction
- manual rotation mode active
- normal operation
- interruption of the input signal
- impossible rotation due to and excessive load on the valve (blockage)





M16 ACTUATOR & ROOM UNIT M95

COMFORT, EASY.



FEATURES

- ▶ WEATHER COMPENSATED REGULATION FOR HEATING AND COOLING
- ▶ WEEKLY PROGRAM
- ▶ SETTINGS VIA APP
- ▶ FAST COUPLING TO THE VALVE

DESCRIPTION

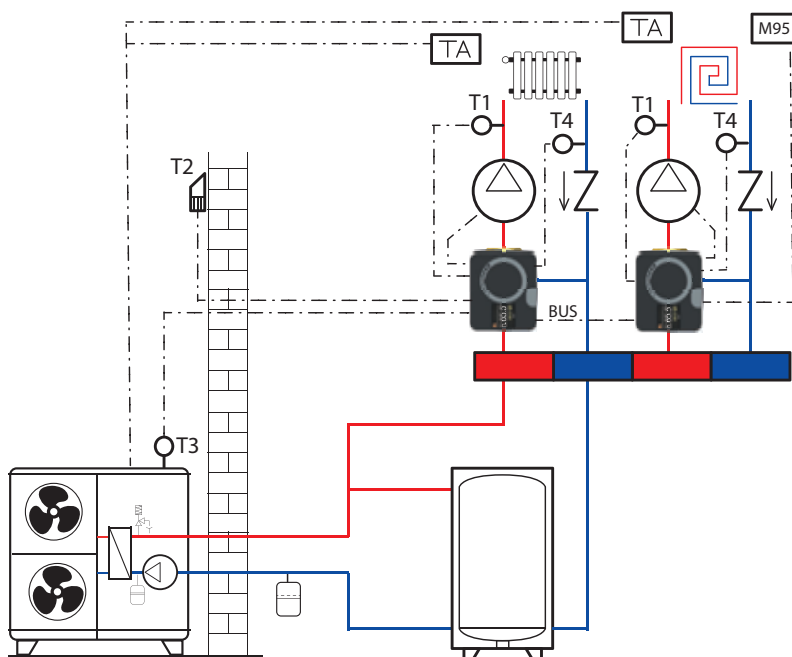
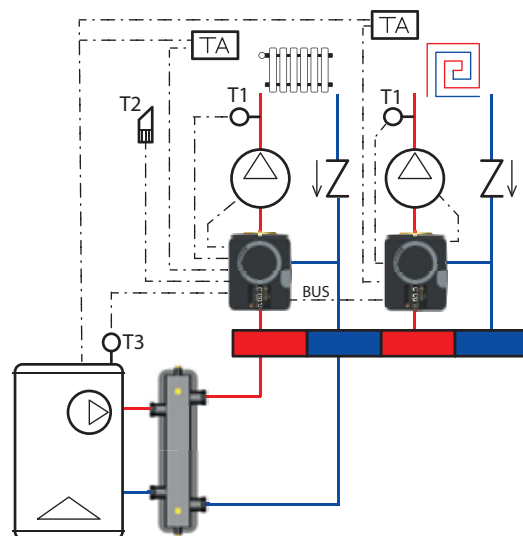
The M16 actuator is a device used for operating rotary valves and can be applied to all Barberi® three-way and four-way mixing valve models, excluding flanged mixing valves, as well as to all regulating groups in DN 20, 25, 32, 40 and 50 sizes. The actuator is equipped with an integrated controller which, by means of Pt1000 probes and an outdoor probe, performs weather-compensated control of the fluid temperature supplied to heating or cooling terminals. The product is supplied with a directly connected power cable and standard European 2-pole plug, 3 Pt1000 temperature probes, outdoor probe, adaptor for mixing valves and anti-rotation pin. The actuator is normally used for weather-compensated flow temperature control towards heating/cooling terminals, with the possibility of connection to an additional M95 room unit.

The installation is simplified by means of a quick coupling system placed in the lower part of the actuator.

The buttons for setting the working mode are placed under the knob.

If necessary, by pressing the clutch button, the actuator can be set to the manual mode: the operation unlocks the gear system and makes it possible to manually rotate the actuator and the connected valve.

The M16 room unit allows the setting of the room temperature and communicates with the weather-compensated actuator in order to optimize the water temperature supplied to heating/cooling terminals.



PRODUCT CATALOGUE

M16

Weather compensated actuator for mixing valves, rotation angle 90°, with integrated temperature regulator for heating and cooling. Complete with mixing valve adaptor, anti-rotation pin, 3 Pt 1000 probes, 2 contact probe holders, 1 outside probe, integrated Shuko electrical plug (2 m cable).

Torque: **5 N·m**

Protection class: **IP 42**

Frequency: **50 Hz**

Power consumption: **3,5 W**



Code	V	Running time [s]	Nr. poles	Cable [m]		
M16230005W	230	120	2	2	1	6

HIGHLIGHTS

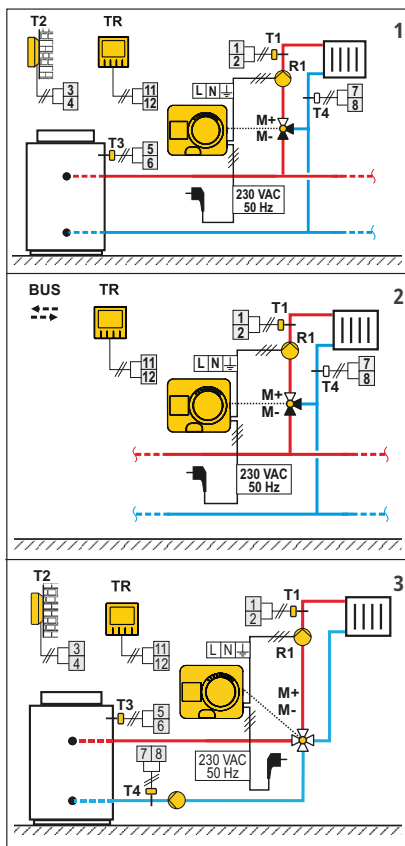
USER FRIENDLY

The buttons under the knob allow to select the working parameters, for example:

- system diagram: (1) "Heating circuit" (when only one weather compensated regulation is present), (2) "Additional heating circuit" (for the second and further weather compensated regulations) and (3) "Heating circuit and regulation of return line"; - weather compensated curve according to the type of building and terminals for heating/cooling;

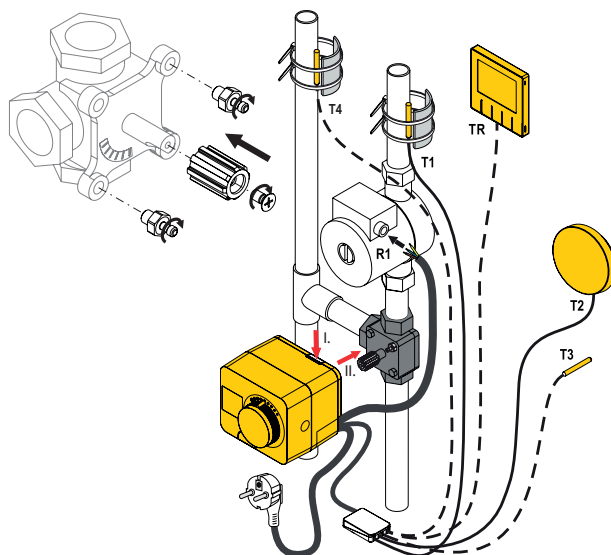


- day temperature, night temperature and weekly program;
- automatic heating/cooling mode switchover (contact T3 or T4);
- eco, party and holiday modes;
- control of the sensor errors;
- operational statistics;
- frost protection and periodic pump activation to prevent pump blockage;
- floor drying program for radiant panel systems;
- connection to external devices (M95) and room thermostat (contact T3 or T4).



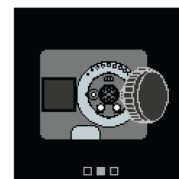
FAST COUPLING

After screwing the adaptor to the mixing valve stem, the actuator is locked to the valve through a fast "click" system, placed on the lower part, without using any further screw.



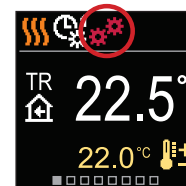
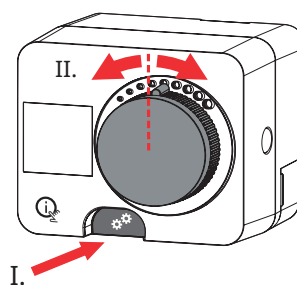
TRADITIONAL CONTROL BUTTONS

The control buttons are placed under the knob to guarantee a better protection. They are traditional "push" buttons to make the parameter setting easier and more intuitive.



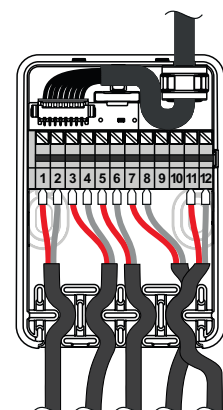
MANUAL ROTATION OF THE VALVE

The manual rotation of the valve can be activated by pressing the clutch button (I). The desired position of the mixing valve is obtained by rotating the knob (II). By pressing again the clutch button (I), the manual rotation is deactivated.



WIRING BOX

The connection of the three Pt 1000 sensors (T1, T3, T4), outside sensor (T2), room unit (TR) and the bus (PIN 9-10) among several actuators can be easily done through the wiring box, which is already prewired to the actuator.



T1 T2 T3 T4 TR

Symbol	Description
	Room heating.
	Room cooling.
	Operation according to program timer 1 - day temp.
	Operation according to program timer 1 - night temp.
	Requested day temperature operation mode.
	Requested night temperature operation mode.
	Switch off.
	Manual operation mode.
	Circulation pump is running.
	Turn the valve to the left.
	Turn the valve to the right.
	Manual intervention - the clutch is activated.
	PARTY operation mode.
	ECO operation mode.
	Holiday operation mode.
	Automatic heating switch off.
	Floor drying.
	Operation with constant stand-pipe temperature.
	Boost heating.
	AUX function at input T4.

HIGHLIGHTS

The M95 room unit, connected to one M16 weather compensated actuator, allows a remote and easier control of the working parameters that can be chosen by the final user instead of acting directly on the M16 display.

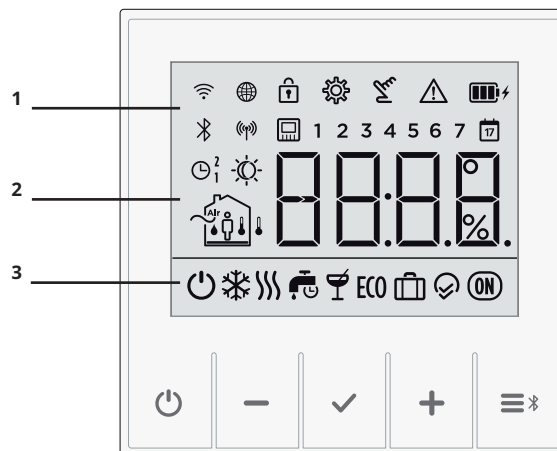
It provides the M16 actuator with information regarding the room temperature to optimize the fluid temperature delivered to the heating terminals.

The remotely adjustable parameters are:

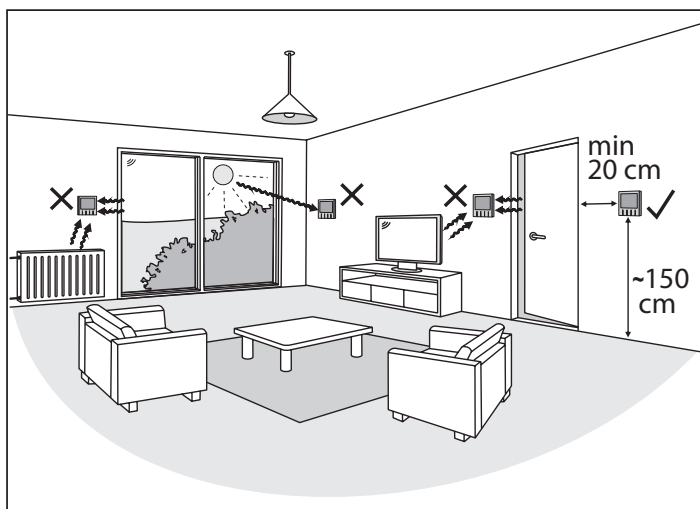
- 1) change of the day or night temperature
- 2) activation/deactivation of the following modes:
 - Party: comfort temperature for a desired period
 - Eco: temperature set-back for a desired period
 - Holiday: temperature set-back until the return date
 - Fireplace: the room sensor function is deactivated when a fireplace is operating inside the house
 - Frost-protection temperature
 - Button lock.

This version of room unit is connected to the M16 actuator via cable.

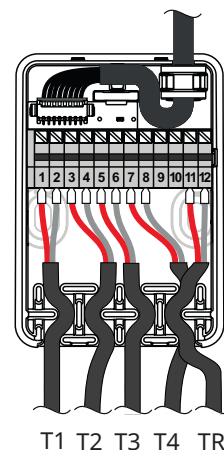
The room unit can also be operated using an app on a smart device. You can download the Clausius BT app from Google Play for Android smart devices and from iStore for iOS devices.



- 1** Symbols to display condition and status.
- 2** Display of temperatures and other climate data in the room.
- 3** Operating mode display.



The M95 room unit can be wall-mounted as a traditional room thermostat.



Via terminals 11 and 12 (TR cable) of the wiring box, the M16 actuator supplies electrical power to the M95 room unit and receives its remote commands.

PRODUCT CATALOGUE

M95

Digital room unit for the connection to a weather compensated actuator M16. Room temperature setting with backlit display and menu navigation. Connection via cable, Modbus and app.

Supply: **connected via cable to the M16 actuator**

Protection class: **IP 20**



Code	Size	Controller		
M950120001	L-H-D 81-81-24,5	Seltron RCD20	1	-

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