

“SMALL” 3 POINTS ACTUATOR

INSTRUCTIONS



ARTICOLE	VOLTAGE FREQUENCY	ABSORBED POWER	ROTATION ANGLE	ROTATION TIME	TORQUE	ROOM TEMPERATURE	DEGREE OF PROTECTION	COLOUR
3010	230 V-50Hz	4,5 VA	90°	180 S	10 Nm	-10° + 50°C	IP54	RED/BLUE
3011	24 V-50Hz	4,5 VA	90°	180 S	10 Nm	-10° + 50°C	IP54	RED/BLUE

DESCRIPTION

The actuator, incorporating an appropriate servomotor, permits automatic operation of a mixing valve. It operates in response to a signal coming from a temperature control unit.

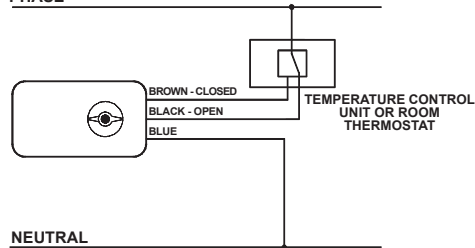
MANUAL RELEASE USE

In order to manually open or close the actuator, push the red key and simultaneously turn the position indicator counter-clockwise through 90°. Normal functioning will return automatically.

ELECTRICAL CONNECTION

Before connecting the actuator ensure that the selected model is compatible with the available network voltage. All connections must be made by qualified personnel, with respect for overall electrical system and taking care that the electricity supply is switched off. Incorrect connection may damage both person and equipment. All FAR actuators have been designed with an additional auxiliary microswitch, an exchange contact without voltage, for low-tension signals (max 230 V) and/or to supply applications with low electrical input (max 2A).

PHASE



NEUTRAL

The actuator is provided with a double isolation, so earthing is not required.

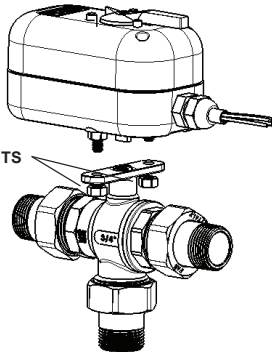
DIRECTIVE 2002/96/CE FOR WASTE DISPOSAL OF ELECTRICAL AND ELECTRONIC EQUIPMENT

The EEC Standard 2002/96/CE on WEEE (waste of electrical and electronic equipment) provides that they must be eliminated separately and not like a solid urban waste. For the correct disposal of WEEE must apply to the local authority, who will give all the information needed about the modality to follow.

DECLARATION OF CONFORMITY

FAR Rubinetterie declare under their own responsibility that actuators are according to EEC Standards: 2004/108/CE and 2006/95/CE.

FIXING NUTS



N°	COLOUR	CONNECTION	DESCRIPTION
1	GREY	MICROSWITCH COMMON CONTACT	CONNECTED TO THE COMMON CONTACT OF THE MICROSWITCH
2	WHITE	N.O. OF THE MICROSWITCH	CONNECTED TO THE NORMALLY OPEN CONTACT OF THE MICROSWITCH
3	-	SIGNAL INDICATOR	WITH OPEN VALVE PRESENCE OF PHASE ON TERMINAL
N	BLUE	NEUTRAL	CONNECTION TO THE NEUTRAL OF SYSTEM
5	BROWN	PHASE - CLOSE	VALVE CLOSING
6	BLACK	PHASE - OPEN	VALVE OPENING
7	-	SIGNAL INDICATOR	WITH CLOSED VALVE PRESENCE OF PHASE ON TERMINAL

WIRING CONNECTIONS: ACTUATOR WITH TEMPERATURE CONTROL UNIT

To control opening and closing of a zone valve via an actuator, connect the blue wire to the neutral one, the brown and the black to the temperature control unit. The valve opens in presence of phase on the brown wire, while with phase on the black the valve closes.



FAR CONTROL UNIT FOR UNDERFLOOR HEATING SYSTEMS



Art.3490



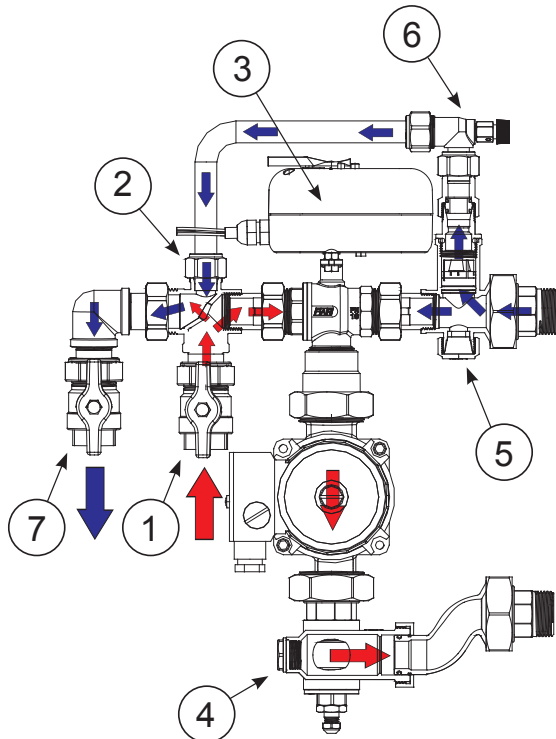
CONTROL UNIT WITH 3-POINT ACTUATOR FOR LOW TEMPERATURE SYSTEMS

The control unit with modulating actuator (art. 3490) is suitable for low temperature water distribution systems serving underfloor heating loops. It is designed for connection to either pumped flow or return pipework to the boiler.

Flow water temperature is controlled by means of a 3-way actuator which, depending on the temperature set on the control unit, blends water coming from the return circuit with hot water coming direct from the boiler. A safety thermostat ensures that very high water temperature cannot enter the heating loops - even in the event of the actuator malfunctioning.

The unit comprises the following components (see illustration):

1. 3/4" ball valve for flow pipeline connection
2. Diverter connection complete with fixed bypass for return of high temperature water to the boiler and return water from the heating loops, complete with gauge for reading temperature of water entering the mixer
3. Mixing valve complete with 3-way actuator
4. Safety thermostat with probe with adjustable temperature from 0 to 90°C, preset at 60°C. This ensures that the pumps shut down when the pre-set temperature is reached
5. Return connection with integral non-return valve for water distribution to the mixer and to the return pipeline into the boiler
6. Elbow with manual air vent valve
7. 3/4" ball valve for return pipeline connection



OPERATION

The mixing valve is designed to ensure a constant supply to the underfloor heating loops of water blended to the required temperature. Circulation is as follows: water leaves the mixing valve (3), passes through the pump (installed in place of the connection piece) and is pumped to the flow side of the manifold(s) from whence it is distributed to the individual underfloor heating loops. Water coming back from the loops enters the return side of the manifold(s) and, passing through the return connection (5), re-enters the mixing valve. The high temperature water is supplied from the boiler to the mixing valve via a ball valve (1) and diverter connection (2). As it enters the mixing valve an equal quantity of lower temperature return water is diverted back to the boiler, thus automatically keeping the system in balance.

IMMERSION SAFETY THERMOSTAT

The immersion thermostat (fig.1) placed on the regulating unit, allows to shut down the pump or the boiler. It is a liquid-filled type thermostat. Thanks to a numerated handle it is possible to set up the maximum temperature value achievable in the panels.

TECHNICAL FEATURES

Temperature setting range:	0-90°C
Level of protection:	IP40
Insulation class:	I
Temperature rate of change:	=<1K/min
Maximum head temperature:	80°C
Maximum sensing bulb temperature:	125°C
Switch action:	1B
Fairlead type:	M20x1,5
Contacts rating:	C-1:10(2,5)A/250V~ C-2:6(2,5)A/250V~

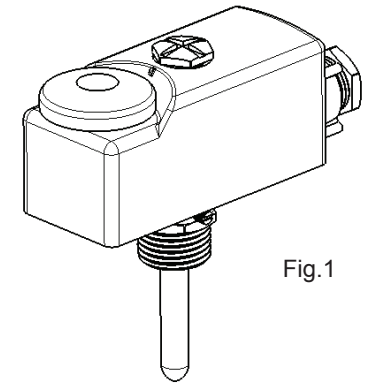


Fig.1

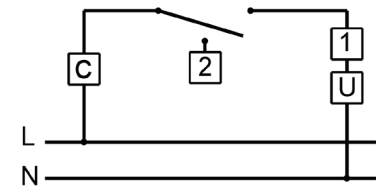


Fig.2

ELECTRIC CONNECTIONS

All installation operations must be carried only by qualified personnel, in strict compliance with all current safety and legal requirements.

Before connecting the thermostat, make sure that the supply voltage of the appliance (pump, boiler, etc.) is not connected and corresponds to that in the equipment.

It is essential to verify that the load is compatible with the contact capacity.

To connect the wiring, unscrew the four wires, remove the cover and connect the wires to the appliance terminals (Fig.2). Snap the front cover back. Note: to snap back the front cover, the aperture for the control knob must coincide with the temperature-adjustment pin.

TERMINAL 1: It opens the circuit when temperature raises and it shuts down the user (for example the pump). This is the terminal to which connect the phase of pump.

TERMINAL 2: It closes the circuit when temperature raises (in presence of a circulator this terminal has not to be used).

TERMINAL C: Common contact.

TERMINAL U: Connected user (pump, boiler, etc.)

SYSTEM FILLING

To speed up filling of the unit we recommend setting the mixing valve to a central position using the manual release on the actuator. This is achieved by pushing the red button and turning the actuator handle to a central position between the two limit switches. Once filled, the system will discharge any air in the return pipe via the manual air vent valve (see illustration No. 6). To completely fill the heating circuits it is necessary to close each valve on the return manifold and then open them one by one. We recommend cleaning the system to prevent any impurities obstructing the waterways, which could cause a malfunction of the regulating controls.

TECHNICAL FEATURES

Nominal pressure:	10 bar
Maximum working pressure:	4 bar
Centre distance of the pump to be installed:	130mm