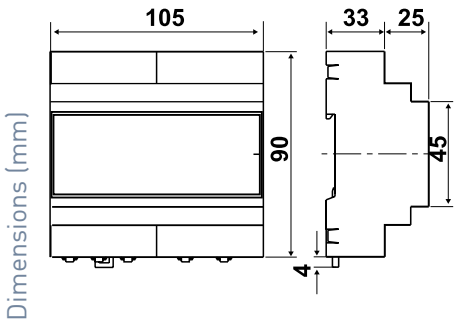
EV60

Fixed point temperature digital control unit

It is suitable to be used on all types of centralized sanitary water control systems. The unit is mostly used to regulate sanitary water temperature, but it may also be used to regulate the temperature of a room, a greenhouse, a swimming-pool, and so on. EV60 also comes with a useful thermal disinfection program to prevent legionnaires' disease.



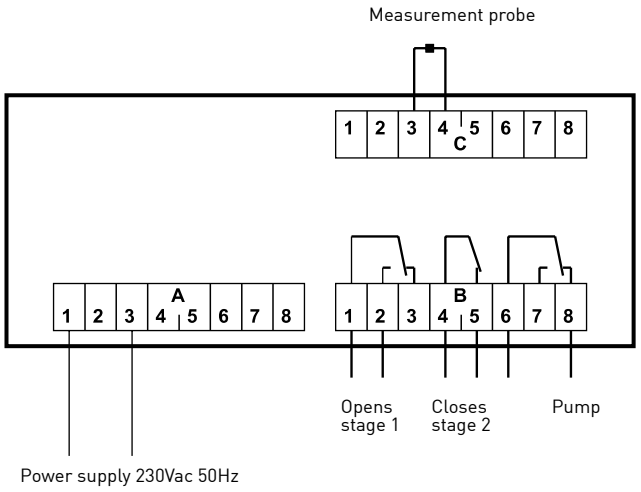
	POWER SUPPLY	CONTACTS RATING	ADJUSTABLE RANGE	OPERATION ADMISSIBLE TEMPERATURE	PROTECTION DEGREE
EV60	230Vac 50Hz	5A - 250Vac	0 ÷ 99 °C	0 ÷ 50 °C	IP40 back-panel

ELECTRICAL FEATURES

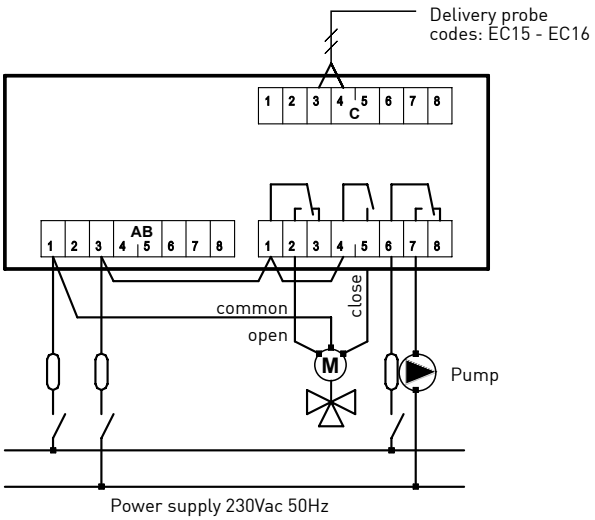
Power supply: 230V 50Hz.
Consumption: 3 VA.
3 output relays:

- 1 relay for circulation pump control;
- 1 relay for valve opening command or stage 1 command;
- 1 relay for valve closing command or stage 2 command.

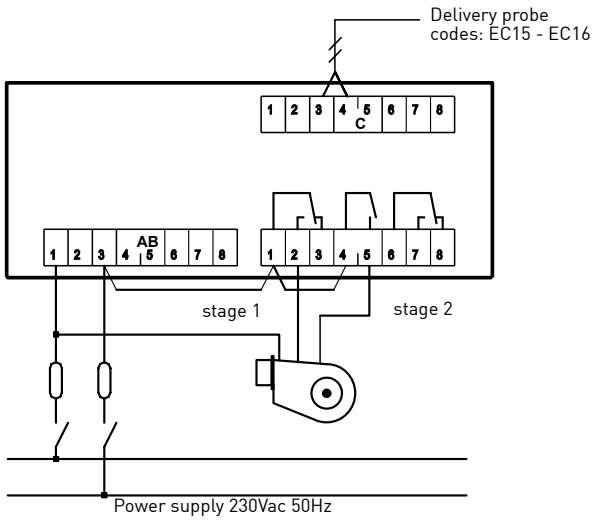
1 analog input for delivery temperature (NTC type probes - EC15, EC16).



CONTROL OF SANITARY WATER MIXING VALVE

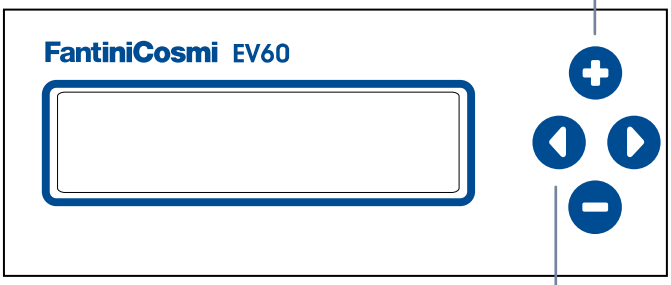


2-STAGE BURNER CONTROL



OPERATION

Using the 2 keys (+ and -) can be scrolled various menus and can be modified the parameters.



The 2 keys (‹ and ›) are used to enter in the menu and to pass from one page to another.

EV60 control unit continuously compares the measured temperature with the one preset (which depends of the current programming). Based on the proportional band and the integral time, it determines the position of the regulating mixing valve or commands the two stages of the output relays.
The control unit's output is expressed in percentage, where 0% indicates that the valve must move to the completely closed position (or stage 1-2 OFF), and 100% indicates that it must move to the completely opened position (or stage 1-2 ON).

LANGUAGE SELECTION

During installation is possible to choose the language, used to view the menu.

OUTPUT RELAYS

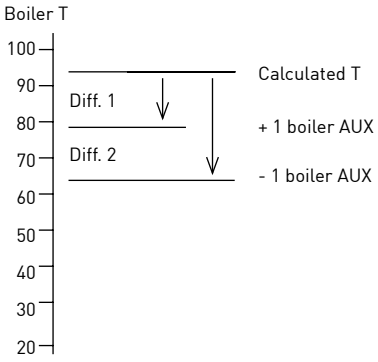
The three output relays have the following functions:

- Circulation pump command.
- Valve opening command or stage 1 command.
- Valve closing command or stage 2 command.

CIRCULATION PUMP (if present)

It is activated in order to allow water circulation inside the heating system and is automatically turned off when the control unit has no output. Pump switch-off time may be delayed by the user.

2-STAGE OUTPUT



MIXING VALVE CONTROL
The mixing valve is commanded to open/close by means of two relays in order to allow the set temperature to reach the value calculated by the control unit.

2-STAGE CONTROL
Instead of using the mixing valve, it is possible to command in on-off mode the burner or another one- or two-stage user (see diagram).

PROGRAMMING SCHEDULE
It is possible to have a weekly programming schedule with three ON and three OFF schedules for each day of the week.

THERMAL DISINFECTION
It's possible to enable or disable the disinfection function to prevent the infectious disease known as Legionellosis. This function allows you to program a disinfection temperature, the day of the week and cycle length. It also lets you set the disinfection cycle starting and finishing time.
We recommend to schedule disinfection during the night when there's less frequent hot water use in order to avoid burns due to the high water temperature.
N.B. If you decide to use this program, is mandatory to use special heat protection for sanitary users that can interrupt water flow over a certain temperature or can automatically mix the water of various users to protect them from possible scorches. Water with a temperature of over 50°C can cause burns in a few seconds.

OPERATION PROGRAMS
The user may choose from a number of programs for operating the control unit:

- VALVE OPENS OR STAGE 1-2 ON - Activation of the circulation pump triggers the manual opening of the mixing valve or both stages on.
- VALVE CLOSES OR STAGE 1-2 OFF - Deactivation of the circulation pump triggers the manual closing of the valve or both stages off.
- ALWAYS DAY - It uses the DAYTIME temperature set for calculating the desired temperature.
- ALWAYS NIGHT - It uses the NIGHTTIME temperature set for calculating the desired temperature.
- AUTOMATIC - The desired temperature to use is selected based on the programming done. When the unit is in a "temporary" period (see Temporary Program below), the automatic programming is excluded.

TEMPORARY PROGRAMS
These programs override the automatic program. Four temporary programs are available and to each of them is associated a desired temperature value, a starting date and a period ending.
If both dates coincide, only one day of the temporary program is considered.
During temporary periods the automatic program is cancelled and the temperature is regulated according to the requirements of this programming.

STANDARDS AND HOMOLOGATIONS

Complies with the law 373, law n.10 dated 9 of January 1991 and D.P.R.412 dated 26 of August 1993.
In conformity with EN 60730-2-9; EN 60730-2-7 standards.

INSTALLATION

DIN-rail mounting (6 modules).
To ensure an adequate protection install the device on the DIN-rail within a framework.
The removable terminals facilitate the wiring and a possible replacement.

FEATURES

Alphanumeric display and 4 functional keys for parameters easy setting.
Data setting via menu.
Digital weekly programming clock with charge reserve of 5 years.
Removable terminal boards for easy replacement.

ACCESSORIES

EC15
External probe

EC17
Well probe

EC16
Immersion delivery probe with protection casing and conic thread connection G 1/2.

SYSTEM EXAMPLE

EXAMPLE OF SANITARY WATER ADJUSTMENT SYSTEM