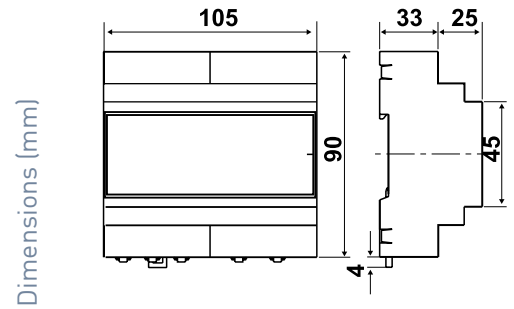# EV83

Regulation control unit for heating systems, DIN-rail mounting (6 modules)

Suitable for all central heating systems, such as those related to residential buildings, schools, hospitals, factories etc. EV83 controller allows complete control of the mixing valve, or alternatively, the two-stage burner and the corresponding circulation pump.

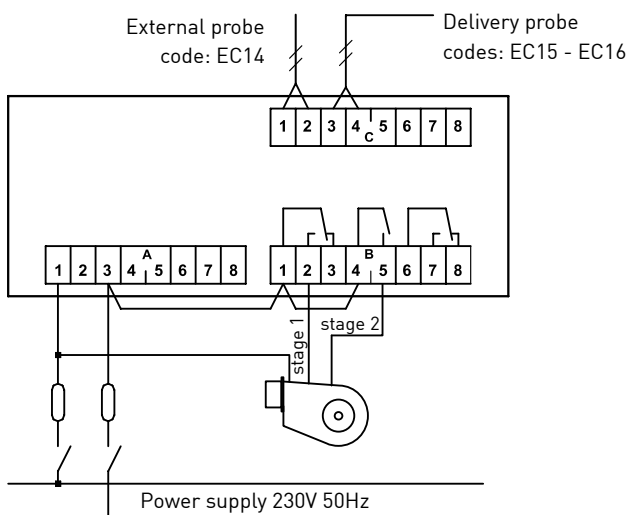|	Power supply	Contacts rating	Operation admissible temperature	Protection degree
EV83	230Vac 50 Hz	5A - 250Vac	0 ÷ 50 °C	IP40 (back panel)

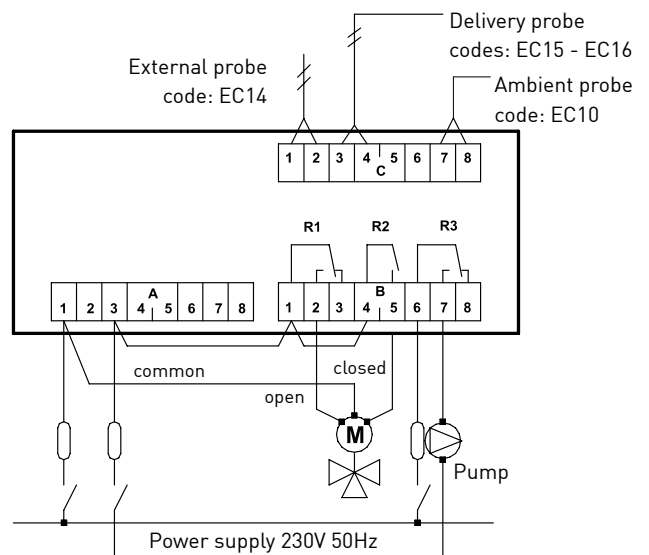## ELECTRICAL FEATURES

Power supply: 230Vac 50Hz.
Consumption: 3 VA.
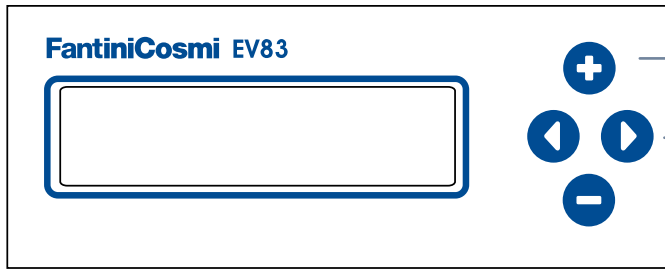3 output relays.
Contacts rating: 5A-230Vac (resistive load).

ELECTRICAL WIRING OF 2-STAGE BURNER CONTROL

SYSTEM ELECTRICAL WIRING

OPERATION

FantiniCosmi EV83	➕ ◀ ▶ ➖

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.

EV83 purpose is to obtain a certain ambient temperature, starting from delivery temperature and external temperature reading.
The ambient temperature is set by the user through the configuration menu shown on the display and can take different values depending on the selected program.
In the moment when it has been recognized a program type the device calculates the delivery temperature required to obtain the ambient temperature associated with the same program; this is going to be calculated by interpolation using the preset delivery temperature values for four external temperature values (-10°C, 0°C, 10°C, 20°C). It is possible to optimize the temperature control using the temperature probe EC10.
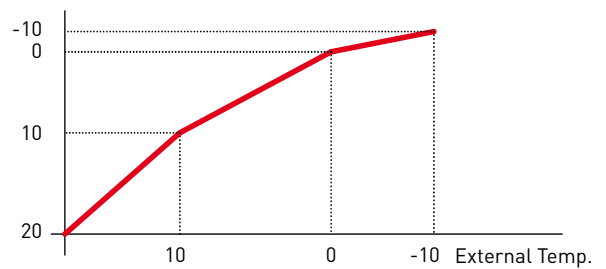
LANGUAGE SELECTION
During installation is possible to choose the language, used to view the menu.

REGULATION BROKEN CURVE
This curve represents the values of the delivery temperature as a function of the external temperature control for obtaining an ambient temperature of 20°C. Curve calibration is done by setting four significant points of the curve related to four external temperature values. Possible curve corrections allow to modify only the points related to the external temperature for which are not verified comfort optimum conditions, without changing other already checked points.

OUTPUT RELAYS
The three output relays have the following functions:
- circulation pump control;
- valve opening command or stage 1 command;
- valve closing command or stage 2 command.

MIXING VALVE
The mixing valve is going to open/close by means of two relays allowing the delivery temperature to reach the temperature value calculated by the controller.

BURNER CONTROL
As an alternative to the mixing valve control is possible to control in on-off mode the burner with one or two stages.

CIRCULATION PUMP (if present)
It is activated for allowing the water circulation in the heating system and it is turned off when the delivery temperature calculated by the controller drops below a minimum value.
Pump turning off can be delayed with a time set by the user (with "----" or "0" if the delay is not necessary).
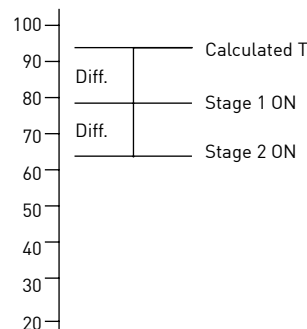
TIME PROGRAMMING
Is possible to have a weekly time programming with three ON schedules and three OFF schedules for each day of the week.
A backup battery allows to have a charge reserve for more than five years.

REGULATION BROKEN CURVE

Delivery Temp.

2-STAGE OUTPUT

Boiler T

OPERATION PROGRAMS

The controller is able to function with different programs selected by the user:

- VALVE OPENS OR STAGE 1-2 ON, activates the circulation pump and drives the mixing valve opening in manual mode or turns on the two stages.
- VALVE CLOSES OR STAGE 1-2 OFF, disables the circulation pump operation and drives the valve closing in manual mode or turns off the two stages.
- ALWAYS DAY, uses the preset day temperature to calculate the desired ambient temperature.
- ALWAYS NIGHT, uses the preset night temperature to calculate the desired ambient temperature.
- AUTOMATIC, the choice of the desired temperature depends of the realized programming. An exception in the automatic programming occurs when the controller is in a "temporary" period (see below temporary program) or the current date is outside of the preset heating period.
- ALWAYS ANTIFREEZE, uses the preset antifreeze temperature to calculate the desired ambient temperature.

HEATING PERIOD

Establishes the time of the year within which the regulation is active and it is in automatic mode, outside of this period, the controller shuts down the system and turns off the circulation pump.

TEMPORARY PROGRAM

These programs have priority over automatic programming.

Are available four temporary programs and to each of these is associated a desired ambient temperature, a period start date and a period end date. If these two dates coincide is considered a one-day temporary program.

During temporary periods will be canceled automatic program and will be regulated the ambient temperature according to the requirements of this program.

To exclude a program is necessary to set the desired temperature to "---- -" (not included).

SWITCH-ON TIME OPTIMIZATION

As per delivery temperature, the switch-on advance time is calculated automatically by means of interpolation, using the preset values of the switch-on advance time for four external temperature values (-10° 0° 10° 20°).

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

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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 programmer clock with charge reserve of approximately 5 years.
Anticondensation probe for boiler protection.
Three points control output for mixing valves with servocontrol type: O24 - O34 - O35.
Three points control output for motorized mixing valves type: Z20 - Z30 - ZL30 - Zl31.

ACCESSORIES

EC10
Ambient probe

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

EC14
External probe

EC15
Contact delivery probe with clamp for fixing on the pipe.

SYSTEM EXAMPLES

Ambient probe

EV83

Delivery probe

External probe

M

2 stage burner

Return probe