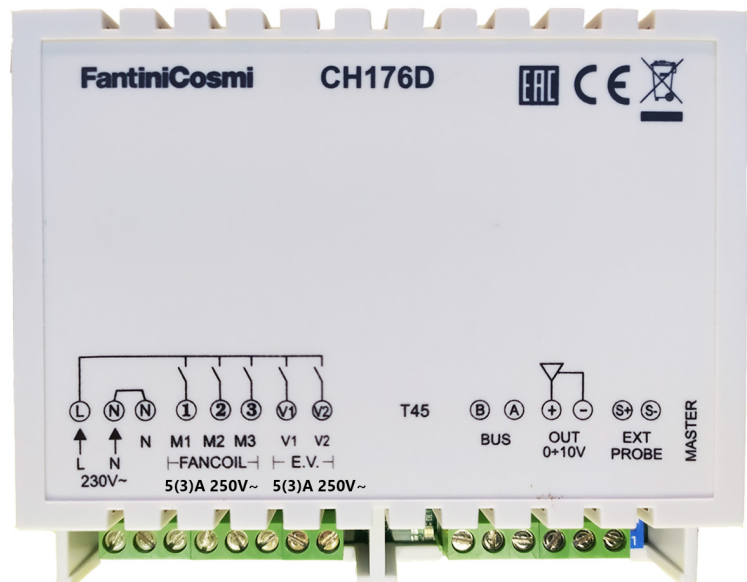




INSTRUCTIONS FOR USE

CH176D

DIN RAIL WIRED ACTUATOR FOR
FAN COIL ROOM THERMOSTAT



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Thank you for purchasing a **FANTINI COSMI S.p.A.** product

Please read this instruction manual carefully and always keep it at hand should you need to consult it for any reason.

The documentation reflects the characteristics of the product. However, for regulatory or commercial developments, customers should verify the availability of updates relating to this documentation on the FANTINI COSMI S.p.A. website: pdf.fantinicosmi.it

OPERATION

The **CH176D** unit is an actuation model which, connected to a thermostat for fan coil CH133AR2 - CH133RR - CH130AR2 - CH130ARR - CH130RR via a bipolar cable, allows to remotely control the two valves, the three-speed motor or a 0 .. 10V, motor, and accept a temperature sensor connected to the appropriate input.

The bipolar cable connecting the module to the thermostat, has a dual function:

- powering the fan coil thermostat,
- communication bus between thermostat and actuation module.

The **CH176D** unit is compatible with the **CH172D** actuator via external set-up. It is possible to connect a single thermostat to several actuators, so as to control more than one fan coil simultaneously with only two cables; for this application, carefully follow the detailed instructions in the document.

CONTENTS OF PACKAGE

- 1 actuator
- 1 user manual

TECHNICAL FEATURES

Power supply and absorbed power	230Vac 50Hz - 2VA
BUS A/B input	Power supply + thermostat data (default setting: SLAVE)
Relay output features	5(3)A 250V~
Voltage-free switching contacts with mains voltage	2 valve outputs (N-V1 and N-V2)
Mains voltage switching contacts	3 motor contact outputs (M1, M2 and M3)
0 ... 10V output	20 mA - 470Ω
Probe input	NTC 10 KΩ (Fantini EC15-EC18-EC19-EC20)
Protection rating	IP00
Software class	A
Maximum temperature	T45
Degree of pollution	2
Complies with Standards	EN60730-1 and second parts
Micro-disconnection	1B
Impulse voltage	4000V
Assembly type and dimensions	6-module DIN Rail
Product not made in Italy	

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1 - INSTALLATION

The device is designed for installation on DIN rail, but its small size facilitate the installation inside the fan coil also.

ATTENTION!



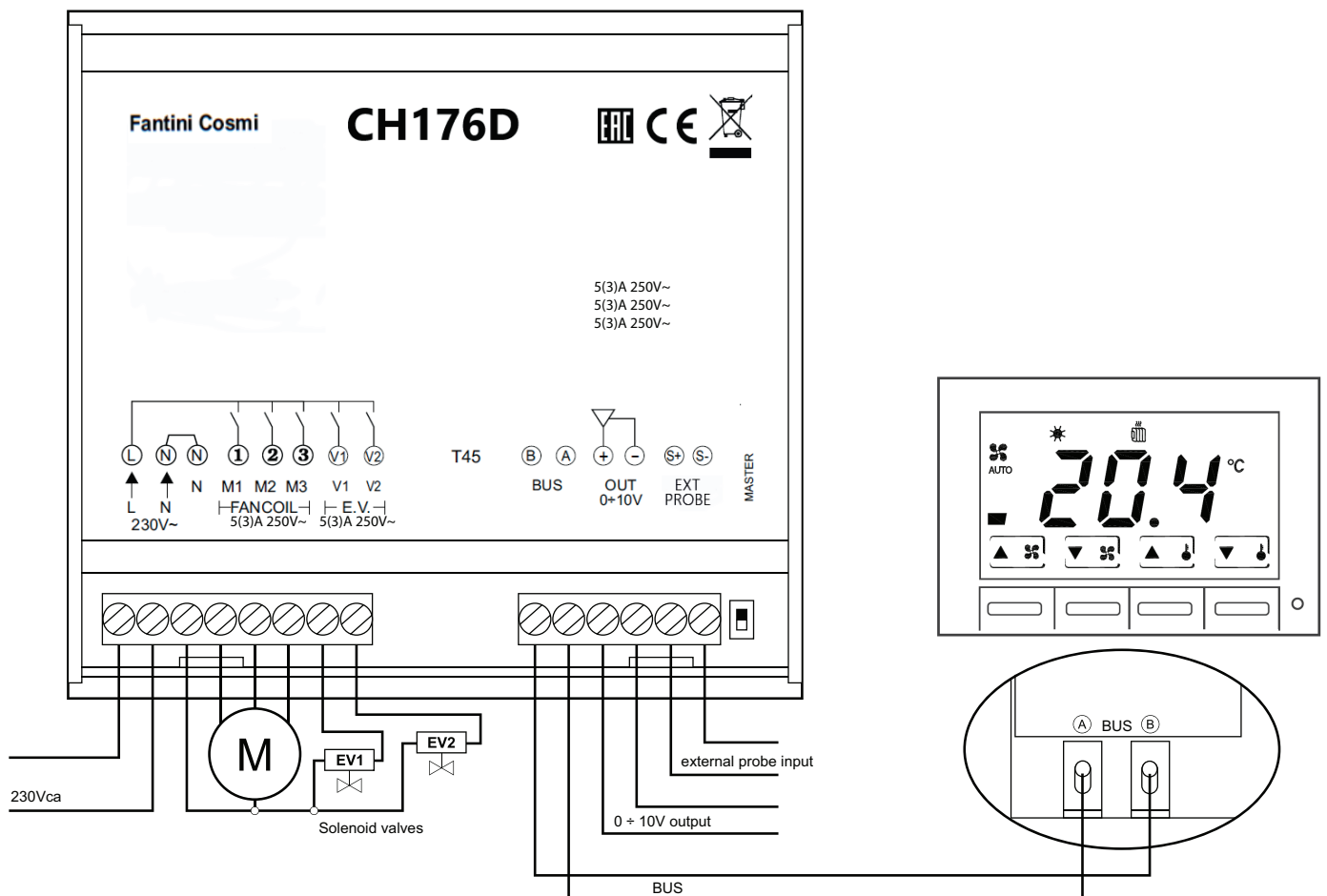
The end parts (live) of the CH176D must be installed in a container or fan coil inaccessible by the user. Installation must be carried out by qualified personnel, in compliance with the requirements concerning installation of electrical devices. Make sure that the power network is disconnected before making any connections or working on the device.

The following figure shows the circuit diagram of the connections.

The distance between the actuator module and thermostat must not exceed 100 metres.

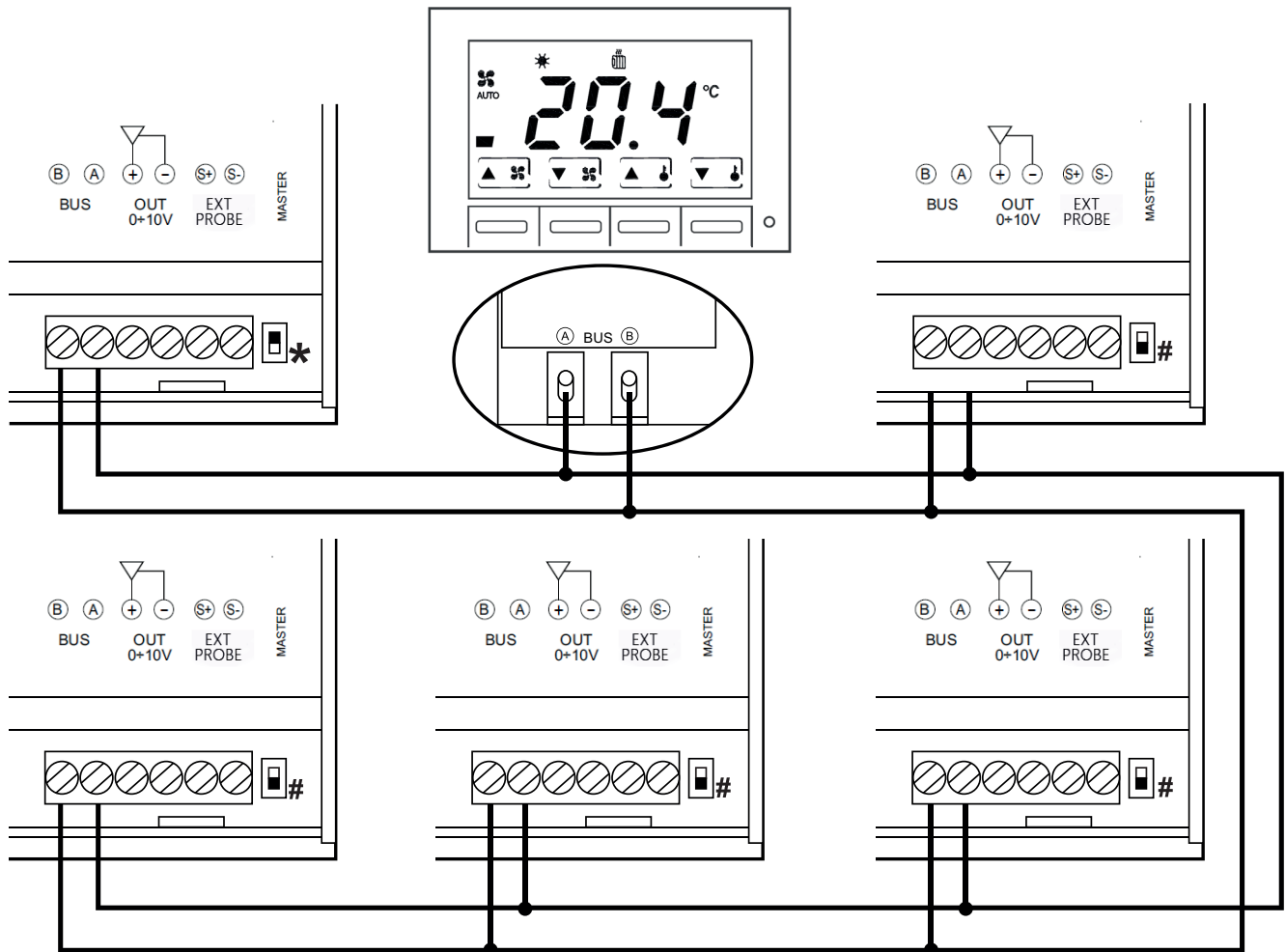
In air conditioning systems with four pipes, valve 1 (terminals N and V1) controls the heating circuit while valve 2 (terminals N and V2) controls the cooling circuit.

The temperature sensor (NTC 10KΩ) must be connected to the PROBE input. The 0 ... 10V motor must be connected to the specific 0-10V OUT output, respecting its polarities.



2 - CONNECTING SEVERAL MODULES TO ONE THERMOSTAT

A CH133AR2 - CH133RR - CH130AR2 - CH130ARR - CH130RR thermostat can control up to five fan-coils simultaneously, using only two wires to connect to the various actuation modules. In this case, only one of the two CH176D modules must have the "BUS selector" in "MASTER" position, while all others must be left in "SLAVE" mode (default setting). The temperature probe connected to the actuation module set up as "MASTER" is the one read by the thermostat. The connection between the various devices must be made as per the diagram in the following figure.



Note:

- * BUS selector in ON position (MASTER)
- # BUS selector in OFF position (SLAVE)

3 - OPERATING MODE SELECTION (COMPATIBILITY WITH ACTUATOR CH172D)

If thermostats CH133RR - CH130RR - CH130ARR are connected to the actuation module, it must be configured in CH172D mode. The selection is made by switching on the actuation module by means of the configuration of the probe input according to the following diagram:

CH176D: probe input free or connected to a temperature probe

CH172D: temperature probe input permanently short-circuited by means of a conductor cable

4 - LUMINOUS STATUS INDICATOR (LED)

The CH176D unit is equipped with a status indicator made via a two-coloured LED diode.

Flashing red: the actuation module is configured as Master and is receiving a command from the thermostat.

Flashing green: the actuation module is configured as Slave and is receiving a command from the thermostat.

Flashing red and green alternately: protection. After twenty minutes during which the actuation module does not receive commands from the thermostat, the relays are deactivated and the 0 ... 10V output is brought to 0V. Upon reception of a command, the actuation module resumes normal operation.

5 - COMMISSIONING AND OPERATIONAL CHECK

Commissioning and testing procedure:

- make sure that the actuator is properly connected to the thermostat;
- set the "BUS selector" to ON (MASTER);
- set up the actuation module as CH176D or CH172D (according to the thermostat connected to it);
- supply 230Vac power to the actuator;
- check that the thermostat is turned on;
- by consulting the manual of the thermostat, set it in the different operating modes (winter and summer) with consistent set-points and gradually select the various ventilation speeds (1, 2 and 3), check switching of the various relay and the subsequent actuations of the V1/V2 valves and the fan coil motor.

DISPOSAL



The symbol of the crossed-out wheeled bin indicates that the products must be collected and disposed of separately from household waste. The batteries and integrated accumulators may be disposed of together with the product. They will be separated at the recycling facilities. A black bar indicates that the product was placed on the market after 13 August 2005. Participating in the separate collection of products and batteries contributes to the correct disposal of these materials and therefore avoids possible negative consequences for the environment and human health. For more detailed information on the collection and recycling programmes available in your country, contact the local authorities or the sales point where you purchased the product.

GENERAL WARRANTY CONDITIONS

The conventional warranty lasts 24 months, starting from the date the equipment is installed. The warranty covers all parts of the equipment, with the exception of those subjected to normal wear through use.

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