

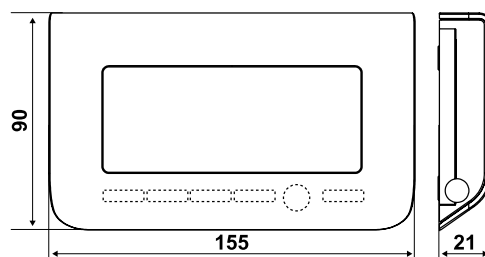
# Intellicomfort CH150MB

## Weekly programmable thermostat, MiA Bus

Electronic programmable thermostat with microprocessor, with weekly programming, to control heating and air-conditioning installations. Connectable to the MiA automation system.



Dimensions (mm)



	Temperature regulation range	Differential*	Adjustable antifreeze temperature range	Humidity displayed range	Power supply from MiA Bus	Contacts rating
CH150MB	2 ÷ 40 °C	0,25 K	2 ÷ 7 °C	20 ÷ 90 RH%	24Vcc 50mA	5(3)A-250Vac

\* Differential values are referred to a thermal gradient of 4K/h.

## ELECTRICAL FEATURES

Power supply 24Vcc 50mA from MiA Bus  
 Contacts rating 5(3)A 250Vac  
 Voltage-free switching contact.  
 Batteries operation life more than 1 year.  
 Low batteries charge indication.

## HOMOLOGATION AND STANDARDS

In conformity with EN 60730-2-9; EN 60730-2-11 standards.  
 ErP classification: ErP Class IV; 2% (EU Reg. 811/2013 - 813/2013)



# INSTALLATION

Wall mounting by means of fastening base in round boxes 502-503.

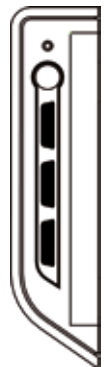
Two-wire connection with the user.

Install the programmable thermostat at 1,5 m height from the floor, away from kitchens, heat sources, windows and doors.

# OPERATION

The programmable thermostat has:

- 3 side wheels for immediate setting of the temperatures.
- 1 SUMMER-WINTER switch button.
- 5 front keys to access directly the operating modes that can be changed by pressing the corresponding key (5 icons on the display for CH150TS model)
- 1 key to access the programming menu (1 icon on the display for CH150TS model)



## VISUALIZATION

- Ambient temperature.
- Outside temperature (if external sensor is installed).
- Measured temperature (measured temperature of the body as a function of ambient humidity).
- Humidity percentage in the environment.

# OPERATION MODES



## MANUAL

The programmable thermostat regulates the room temperature using the set temperature within 24 hours.

T1: The temperature can be set from 2 to 40°C



## AUTOMATIC

The programmable thermostat regulates the set temperatures according to the schedules on weekly profile.

It has 2 winter programs and 1 summer program (prescribed).

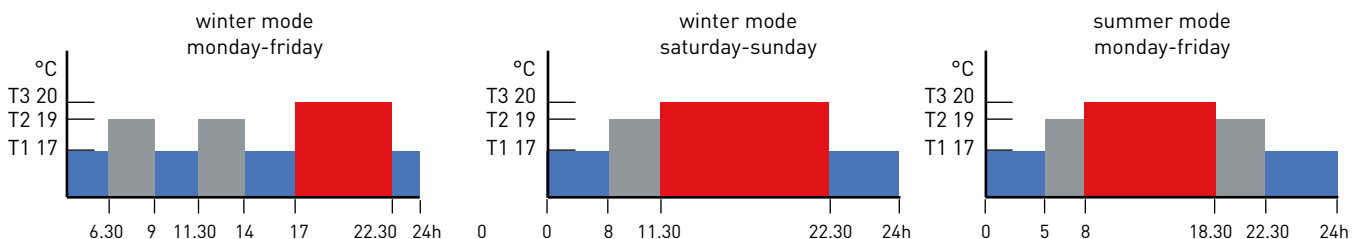
In automatic mode can be set three temperature levels T1-T2-T3.

T1 can be set from 2 to 40 °C

T2 can be set from 2 to 40 °C

T3 can be set from 2 to 40 °C

Note: T3 cannot be less than T2 and T2 cannot be less than T1.



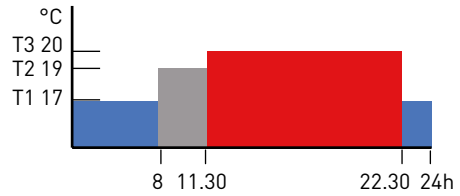


### HOLIDAY

The programmable thermostat follows time and temperature settings of the day "8".

This mode stops when it is selected another operating mode. The programmable thermostat has a predefined mode - Holiday, equal to Saturday and Sunday.

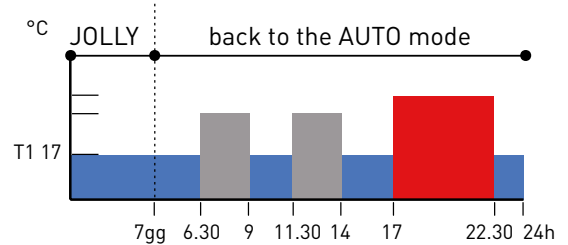
In Holiday mode can be set three temperature levels T1-T2-T3.



### JOLLY

The programmable thermostat controls the installation using a set temperature over a period of time ranging from 1 hour to 99 days and 23 hours.

At the end of the set time, the programmable thermostat returns to the previously used operation mode. This function can be excluded at any time by setting a different operation mode.



Example: Automatic Mode - Jolly for 1 week - the programmable thermostat completes the period of Jolly and resumes the automatic mode.

T1: The temperature set manually from 2 to 40°C.



### OFF (turned OFF)

This mode is used to manage system operation for maintaining the antifreeze temperature, set from 2 to 7°C.

Complete turn OFF of the system T1=OFF.

## SPECIAL FUNCTIONS

These functions are selected accessing the technical menu of the programmable thermostat.

### TEMPERATURE

**CELS**

Temperature display in Celsius degrees (centigrade), e.g. 20,5°C.

**FAHr**

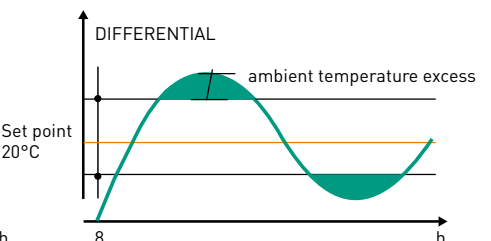
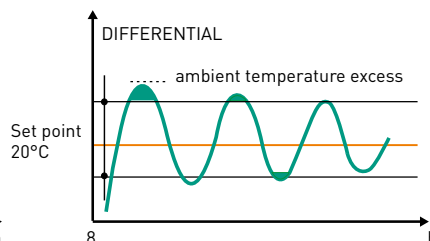
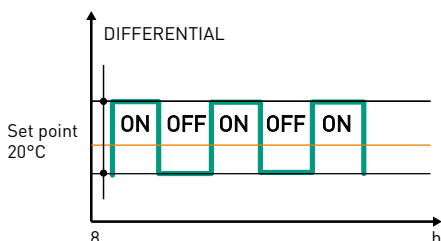
Temperature display in Fahrenheit degrees, e.g. 76,4°F.

### REGULATION TYPE

**Std**

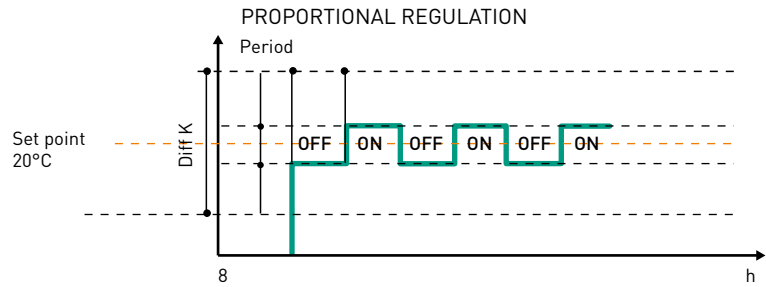
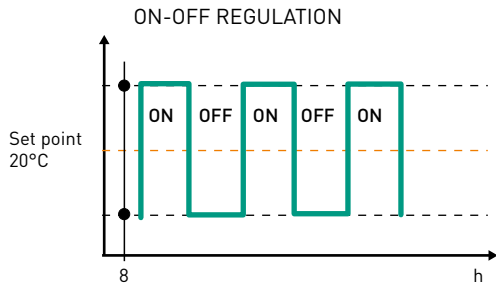
Standard regulation (ON-OFF).

When it is required heating "ON" the boiler or the cooling system stops the functioning only when is reached the set temperature value (set point) within the differential. It is reached quickly the set-point in installations with low inertia; on the contrary, in systems with high inertia are possible high temperature oscillations.



## Prop PROPORTIONAL REGULATION

This regulation type allows you to limit the thermal differential to the minimum, significantly increasing the comfort. In proportional regulation the "heat request" periods are managed within the proportional band.

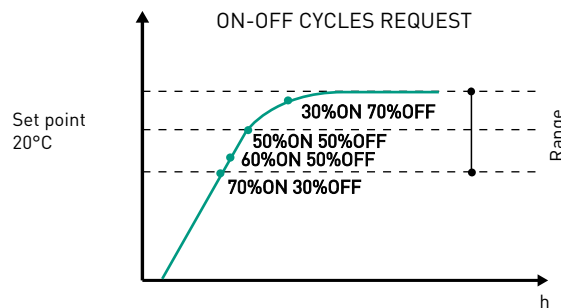
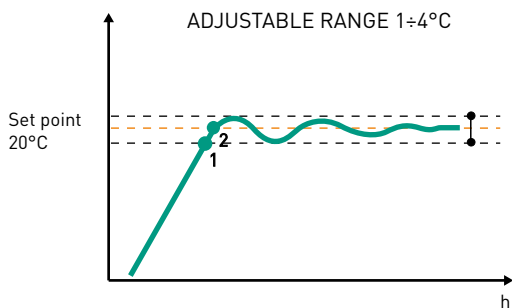


## bAnd ADJUSTABLE PROPORTIONAL RANGE

A range means the value at which the programmable thermostat starts regulation with ON and OFF cycles (installation) as a function of the prescribed period. Range regulation from 1 to 4°C by 0.1°C increments.

### ON-OFF CYCLES

Are defined according to the programmable thermostat's reached temperature, if the ambient temperature is equal to the set-point and the cycles are 50% ON and 50% OFF (proportional contribution +/- one percentage of the integral part contribution).



- 1) The temperature is within adjustable range, the programmable thermostat starts to set ON-OFF cycles.
- 2) The temperature approaches to the set-point, decreasing ON cycles and increasing OFF cycles.

## PEr REGULATION PERIOD

Regulation period is set in 5/10/20 minutes, value managed for ON-OFF cycles.

- EXAMPLE: period of 10 minutes 70% ON = 7 minutes, 30% OFF = 3 minutes. The period and the range should be defined according to the inertia and to the heat transfer type, such as:

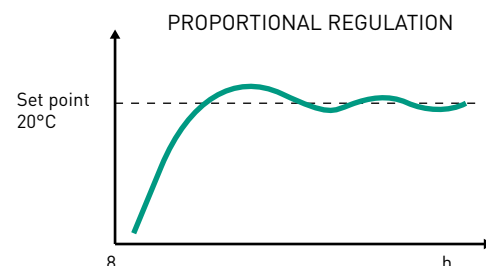
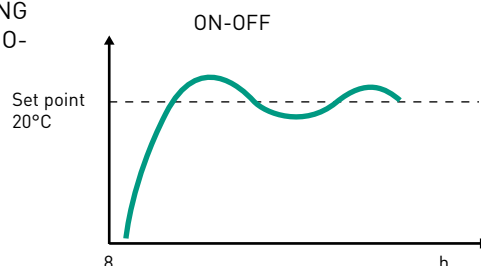
FAN-COIL= transfer for convection

HEATERS= transfer for convection and radiation (prevailing convection)

PANNELLI RADIANTI= transfer for radiation and convection (prevailing radiation)

It has the advantage of decreasing the temperature excess regarding ON-OFF regulation, only to achieve the set-point will need more time.

### SYSTEMS BEHAVIOR DURING ON-OFF AND PROPORTIONAL REGULATION



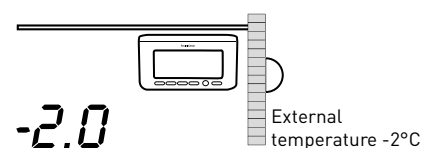
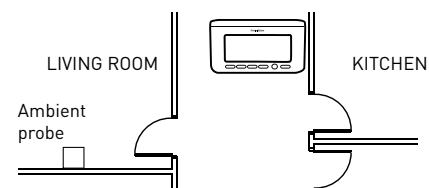
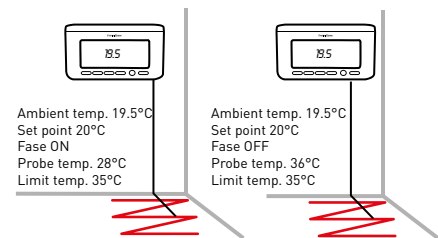
## diff PRESCRIBED THERMAL DIFFERENTIAL

HI high  
LO low

## SECT SEPARATE TEMPERATURE PROBES

Possibility to configure temperature probes of four types.

- PROGRAMMABLE THERMOSTAT'S TEMPERATURE PROBE
- FLO** Floor probe (for heating with radiant panels)  
It controls the temperature in the room where is installed the programmable thermostat. The floor sensor is used for control and as a limit probe for extra-temperatures of radiant panels' fluid. Reaching the limit temperature, the programmable thermostat stops the functioning regardless of set-point achievement. The limit is set in the range 15 ÷ 45 °C.
- In** INTERNAL TEMPERATURE PROBE (AMBIENT)  
Adjusts the ambient temperature read by the second probe. This mode can be used to manage better the domestic environment, in case when the programmable thermostat is placed in unfavourable position.
- OUT** EXTERNAL PROBE  
Displays the room temperature by touching any button on the programmable thermostat's front.  
Note: the external temperature is not adjusted.



## Corr

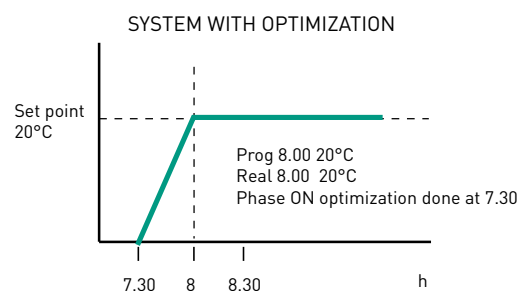
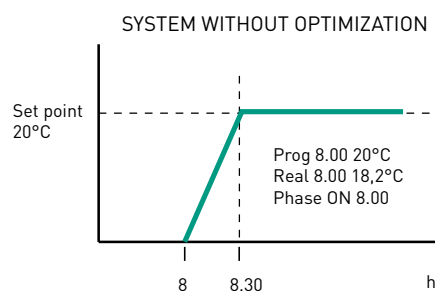
### ROOM TEMPERATURE CORRECTION

In cases, when the programmable thermostat position is not favourable for an optimum regulation of the environment, and you do not want to appeal to the ambient secondary probes, is possible to correct the temperature, read by the programmable thermostat.  
Correction range from -4°C to +4°C with increments of 0,1°C.

## Opt

### OPTIMIZATION

The device calculates system's advance switching-on time needed to achieve the desired temperature at the set time of the day, taking into consideration its thermal inertia. The optimization takes place only at the first system's switching-on of the day.



## Pu

### PUMP ANTI-SEIZURE FUNCTION

The unit turns the system on for 1 minute per day (h 23.58), thereby operating the water circulation pump and preventing it from blocking. This takes place only if the system has never been turned on during the day.

## BAtt

Determines relay "status" at batteries discharge.

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No setting

**On**

The programmable thermostat is in situation of batteries discharge (OFF displayed), closes the contact 1-2 (opens 1-4).

**OFF**

The programmable thermostat is in situation of batteries discharge (OFF displayed), opens the contact 1-2 (closes 1-4).

# FANTINI COSMI SYSTEM

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Separate probe  
2-wire connection



EC18 External probe



EC19 Floor probe



EC20 Ambient probe