Electronic microprocessor controller for integrated system management

EVO SYSTEM

NEW PRODUCT

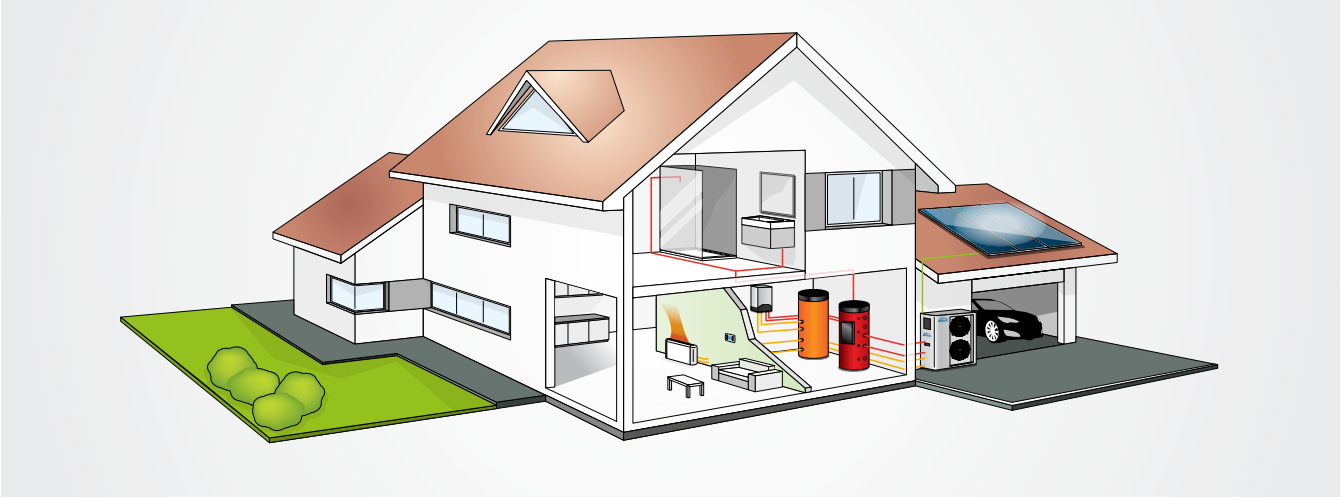
Management of dual systems | Selection of advantageous generator | Climatic curve management | Communication with Ergo | Dew point check | Derivative intervention logic

Intelligence and control at the service of the system

Comfort, energy savings, intelligence, and control are only some of the factors that have contributed to the creation of this microprocessor controller. EVO SYSTEM meets the need to develop an efficient generation system, not only with regard to its basic components, but especially their integration.
The regulations in force have finally diverted attention away from the prompt functioning of the heat pump (for example, its performance at the nominal point) to its behaviour in the seasonal period. To accomplish this it is necessary to take into account the variation of external conditions and the building-specific requirements, any other generation systems present in the system, and especially the management by the regulating system.
Today, finally Galletti concentrates its expertise into a unique product that is able to manage the basic components of a generation system, thereby automatically and intelligently guaranteeing excellent comfort without worries for the user, with maximum energy savings.
The integrated and synergistic management of the system is distilled into one word: EVO SYSTEM.

PLUS

- Integrated management of dual systems
- Selection of the most advantageous generator
- Communication with Ergo
- Dew point check



MAIN FUNCTIONS

Universal controller

The decision to set communication by means of clean contacts and analog outputs 0 – 10 V is based on a logic of flexibility that serial communication would be unable to offer. Specifically, the controller can interface with Galletti's entire range of heat pumps, auxiliary generators such as boilers, enclosed fireplaces, biomass burners, valves, circulators, and modulating actuators of various types.

Dew point

The controller is able to evaluate the relative humidity of a room and automatically calculate the dew point. This calculation is used to adjust the outlet set point of a mixed branch: this ensures that the water that feeds the radiant emitters is at a temperature high enough to avoid any condensation of water vapour in the air.

Compensation

The sensors connected to the regulator make it possible to manage one or more climatic curves on the system's different branches. This function allows the system to be connected to different types of indoor units controlling modulating actuators such as mixing valves to manage different outlet temperatures. This function ensures energy savings and the optimal operation of the emitters in connection with the building's thermal load.

Intelligent management of the tanks

In heat pump systems or with multi-purpose system in which a further generator is present, the temperature in the tanks is managed in order to maximize the use of the heat pump, and the integration system is activated only if necessary.

Emergency actions

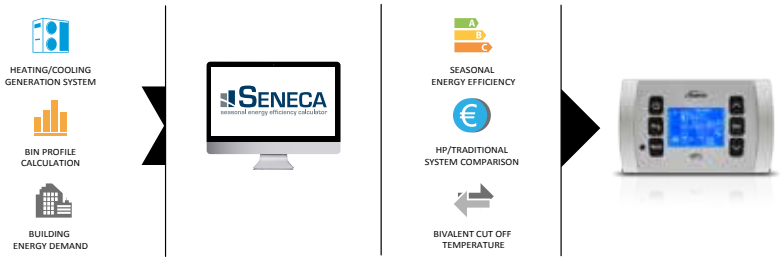
The call to the integration system is made sooner if defrosting is underway, according to an innovative derivative logic that is able to evaluate, according to the speed of change of the water buffer tank's temperature, the presence of an event outside of the project criteria or unusual thermal loads.

SYNERGY WITH SENECA

Seneca

The system can be evaluated in the design phase by means of Seneca, web-based software developed by Galletti's R&D department, which is able to take into account:

- the specific Galletti heat pump and its behaviour under the various conditions
- the exact location of installation, which is matched with the seasonal thermal loads based on the BINs method
- the envelope, evaluated through the energy signature.



Cost effectiveness

Seneca's output is used in the EVO SYSTEM regulator to replicate, during actual operation, the optimal conditions simulated during the design phase. The constant monitoring of the outside temperature allows the controller to select the most advantageous system from an energy or economical point of view. The internal logics, combined with savings, ensure optimal comfort for the user.

Cut-off

In the dual systems, in which the heat pump power is combined with other heat sources, Seneca defines a cut-off temperature at which it is economically or energetically advantageous to use an alternative system to the heat pump.

INTEGRATION WITH ERGO

Communication

EVO SYSTEM makes it possible to manage the entire generation system from the user interface.
Furthermore, serial communication via the Modbus protocol makes the controller perfectly compatible with external supervisors such as ERGO.
This product completes Galletti's range of system controllers, guaranteeing the user integrated management of all the components of the air-conditioning system. Synergy, savings, and comfort with EVO SYSTEM.

ACCESSORIES

EYMCSUE	The humidity sensor is connected to the power board and is designed for insertion in the rear space of the user interface (in a dedicated recess). The relative humidity value is calculated from the absolute humidity measured by the sensor and the dry-bulb temperature measured by the air sensor that is already integrated in the user interface.