systems

systems

MANAGER 3000

Group regulation device

Unit Description

Manager3000 allows the regulation within a group of hydronic units. The controller features high-level algorithms and user interface. The controller is suitable for the management of 2- or 4-pipe systems, with regulation on one water circuit, for chiller- or heat pump units and relevant mode change-over, and also with regulation on two circuits, with independent set-points and parameters, thus exploiting the simultaneous supply of chilled- and hot water. The controller manages up to 8 units, with activation logic focused at the balancing of operation times and at the achievement of the highest energy efficiency. It is possible to define conditions of dynamic stand-by and priority as regards the units activation. It is also feasible the rotation among the systems units, also in cases of constant load. The alarm management is featured, with plain text descriptions and possible notification to remote recipients. Two relay outputs are available, associated to unit- and device alarms. The user interface allows a safe and easy use, thanks to its touch-screen display, back-lit 8.4" type. The multi-level menu features the language selection and differentiated access profiles(user and maintenance). The circuit temperatures and the status of both system- and unit- operation are displayed, via one overview page plus detailed pages. The regulation can be based on proportional- or proportional+integral logics, or also on a dead-band algorithm with dynamic adjustment, with relevant temperature inputs managed by the device. Features as set-point offset, also referred to the outdoor temperature, and demand limit are included, with relevant analog inputs. The device is integrated in the best way with the units, preventing simultaneous activations or resources and optimizing efficiency, overall inrush current values and also operation of water pumps possibly associated to the units. The WebManager option allows the access to the device and its settings, via any computer, with direct- or LAN-based connection, therefore also via internet resources; this is associated to the availability of historical charts for the main operating variables. The "Variable Primary Flow" option represents a unique regulation dedicated to hydronic systems with variable water flow. This represents a crucial contribution to the reduction of the costs related to the hydraulic plant and its operation. It is available as option the interface with the Demetra metering device: thus it is possible to acquire and log the values of the system units electric consumption, together with their operating status; this allows therefore to analyze the systems operating performances throughout time, in terms of both absorbed energy and cooling / heating capacities, consistently with the implementation of enhanced energy management policies for the building.

Features

OPTIONS

Integration in BMS /BAS via ModBus, Echelon LonTalk or Bacnet protocols

Modem or ADSL router

Log of main variables and alarm events

WebManager, with capabilities of remote access and optionale display of logged data charts.

VPF implementation.

Models	MANAGER
max number of managed units	8
Management of hydronic units	X
Regulation on one water circuit	X
Regulation on two water circuits (4 pipe systems)	X
User interface with display and commands, touchscreen, multi-language	X
Alarm management	X
Management of stand-by, priority, rotation	X
Supervision via web pages (WebManager)	opt
Integration into BMS/BAS systems	opt
Acquisition and log of the main operating variables	opt
Modem gprs or pstn, integrated	opt
Router ADSL, integrated	opt
Compatibility with variable primary flow systems	opt
Compatibility with metering device Demetra	opt

SEQUENCER

Group regulation device

Unit Description

The device allows the regulation within a group of hydronic units. The controller features a high-level algorithm (regulation profile GR2000). The controller is suitable for the management of 2-pipe systems, with regulation on one water circuit, for chiller- or heat pump units and relevant mode change-over. The controller manages up to 5 units, with activation logic focused at the balancing of operation times and at the achievement of the highest energy efficiency. It is possible to define conditions of dynamic stand-by and priority as regards the units activation. The alarm management, with one relay output, is available. On the LCD user interface the main variables, related to the system and the units, are displayed. The regulation can be based on proportional- or proportional+integral logics. The device is integrated in the best way with the units, preventing simultaneous activations of resources and optimizing the efficiency and the overall inrush current value.

Features

Integration in BMS /BAS via ModBus, Echelon LonTalk or Bacnet protocols

Models	SEQUENCER
Regulation of multiple units, 1 water circuit	X
Regulation of multiple units, 2 water circuits	
Management of dynamic stand-by, priority, demand limit	X
Integration in bms / bas systems	opt
Management of hydronic units	X
Max number of devices	5
User interface with display and commands	X
Monitoring of alarms and unit status	X

DEMETRA

NEW!

Metering device

Models	DEMETRA
max number of managed units	8
Management of hydronic units	X
Metering on one water circuit	X
Metering on two water circuits (4 pipe systems)	X
Compatibility with Manager3000	X
Compatibility with FWS3000	X

Unit Description

The new Demetra device represents the solution for the most evolved and up-to-date requirements concerning the energy management of HVAC hydronic systems Demetra (DEvice for Metering of Energy TRAnsfers) is associated to the Climaveneta devices, Manager3000 or FWS3000 and enables the metering of both electric energy consumption and cooling / heating performances. Demetra is compatible with hydronic systems with one or two hydraulic circuits. The combination of Manager3000 and Demetra represents the optimized integration between systems regulation and measurement of the benefits, energy-wise, arising from such regulation. With Demetra it is possible the acquisition, at selectable intervals, of the electric energy consumption for each unit, the water flow rates (optional, care of customer) and of the outdoor air temperature. These values are integrated with the operating status of each unit, as detected by Manager3000 or FWS3000 (on these devices, the options of USB key and compatibility with Demetra are required). Demetra is provided complete with power supply meters, associated to each unit belonging to the system. The flow rate meters, for each hydraulic circuit, are optional, care of customer. The enhanced features of this solution allow to obtain directly the cooling- and heating energy values supplied, according to the operation conditions detected on the units at each sampling. By this way, historical files are obtained, easily downloadable also via LAN / internet, thus enabling a deep and complete analysis of systems performances throughout time. In particular, the following data are managed: Electric energy consumption Cooling energy output, for the relevant water circuit Heating energy output, for the relevant water circuits Outdoor air temperature Water inlet- and outlet temperatures, for the relevant water circuits Water flow rate, for the relevant water circuits (optional, care of customer) Duration time for the different operating regimes, for each unit

FWS3

Supervisory device

Features

Integration in bms / bas systems, with modbus protocol
Modem or ADSL router
Log of main variables and alarm events

Unit Description

Supervisory device for one Climaveneta unit. Supervision can be operated via any computer, with direct- or LAN-based connection. It is therefore achieved the internet-based management of the resources, thanks to the built-in web-server and to the availability of web pages specifically defined.The supervision achieved by this way does not require the installation of any additional software on the computer and utilizes the most common browsers. This allows the use of any computer connected to the network or web.A RS-485 serial connection is available for the communication with the slave device (hydronic unit: chiller or heat pump. Rooftop).The access to the supervision is easy and safe, thanks to the use of password. It is possible to visualize a complete list of unit operational variables: temperatures, humidity, indoor air quality, status of the unit. It is also available the display of alarms, with plain text descriptions and possible notification to remote recipient. The setting of the main operational parameters, for each unit, is also allowed: unit status, mode, set-point, time scheduling (based on 4 days, 10 time belts per day).

Models	FWS3
Supervision via web pages	X
Integration in bms / bas systems	opt
Access via lan	X
Management of rooftop- or wet units	X
Management of hydronic units	X
Monitoring of alarms and unit status	X
Remote notification of alarms	X
Log of main regulation variables and alarm events	opt
Built-in modem, gprs or pstn type	opt
Built-in adsl router	opt

FWS3000

Supervisory device

Unit Description

Supervisory device for a system composed of Climaveneta units. Supervision can be operated via any computer, with direct- or LAN-based connection. It is therefore achieved the internet-based management of the resources, thanks to the built-in web-server and to the availability of web pages specifically defined both for the overall system monitoring and the access to detailed information about each unit. The supervision achieved by this way does not require the installation of any additional software on the computer and utilizes the most common browsers. This allows the use of any computer connected to the network or web. A RS-485 serial connection is available for the communication with the slave devices, up to 15 connected units. FWS3000 is particularly effective for the supervision of systems composed of packaged or WET units. The access to the supervision is easy and safe, thanks to the use of password. It is possible to visualize a complete list of unit operational variables: temperatures, humidity, indoor air quality, status of the unit. This is associated to the availability of historical charts for the main operating variables. It is also available the display of alarms, with plain text descriptions and possible notification to remote recipient. The setting of the main operational parameters, for each unit, is also allowed: unit status, mode, set-point, time scheduling (based on 4 days, 10 time belts per day). Various levels of customization are offered, for both the web pages and connectivity-related functions. It is available as option the interface with the Demetra metering device: thus it is possible to acquire and log the values of the system units electric consumption, together with their operating status; this allows therefore to analyze the systems operating performances throughout time, in terms of both absorbed energy and cooling / heating capacities, consistently with the implementation of enhanced energy management policies for the building.

Features

Customization of the web pages

Application package dedicated to high-attendance or cinema applications

Application package dedicated to the energy metering and billing, with water-loop systems

Integration in bms / bas systems, with modbus protocol

Modem or ADSL router

Log of main variables and alarm events

Models	FSW3000
max number of managed units	15
Management of packaged or hydronic systems	X
Alarm management	X
Supervision via web pages	X
Integration into BMS/BAS systems	opt
Acquisition and log of the main operating variables	opt
Modem gprs or pstn, integrated	opt
Router ADSL, integrated	opt
Compatibility with metering device Demetra	opt

Centralised hydronic air-conditioning system for cooling, heating and domestic hot water production

Description

Centralized management and control system, via a user interface consisting in a compact PC for flush mounting, which features Touch Screen commands.
Capability of control up to 224 devices (terminals, chillers or heat pumps, other components) for each serial network.

Standard functions

MANAGEMENT

For each terminal, provided with wall-mount or built-in controller, it is possible to select set-point, operation mode, fan speed. These settings can be further modified either locally, by acting on each controller, or in a centralized way, by acting on the touch-screen. For the water chillers and heat pumps, centralized access allows to switch the units on and off and selecting the operation mode.

SUPERVISION

At any moment it is possible to display via touch-screen the operation status of the terminals connected to the serial line. For each room: temperature, set-point, operation mode are displayed. For the water chillers and heat pumps: operation mode, temperatures and possibly active alarms can be displayed.

QUICK SETTINGS

Via centralized access it is possible to switch all terminals on or off simultaneously; for the water chillers and heat pumps, it is allowed to select the set-point value, the operation mode and to command the switch-on.

TIMER

A timer function is implemented, enabling to switch on or off the whole system or selected zones, with scheduling on daily and weekly basis.

LIMITS

At local level, the setting ability can be limited, by disabling some or all functions of each controller (ventilation, operation mode), or reducing the adjustable range of set-point values to few degrees (e.g. ±1°C). By the same way, each controller can be disabled in order to prevent any change at local level and assign full control of the zone to the supervision.

ECONOMY CONTACT

Local controllers of the terminals are provided with an Economy contact which, connected to voltage-free contacts of various types (room access badge, window contact, presence detector, etc.) thus allowing to manage an “economy” operation profile (minimum speed ventilation, set-point value increased in summer mode and decreased in winter mode). The operation profile is reset to normal by closing the contact.

COMPONENTS MANAGEMENT

It is furthermore possible to manage, by means of dedicated voltage-free contacts, the on-off switching of further components of the cooling / heating system, such as pumps, zone valves or boilers.

Products suitable to integration

Hydronic terminals

- Professional fan-coils with synchronous motor electronic switches i-LIFE
- Professional fan-coils with cabinet or concealed version with centrifugal fan a-LIFE
- Professional fan-coils concealed version high head a-LIFE HP
- Residential fan-coils with cabinet or concealed version NFT
- Cassette type fan-coils single/double coil for double/four pipe connections XHDU
- Ducted type fan-coils wall-mounted controls or with remote control HWD

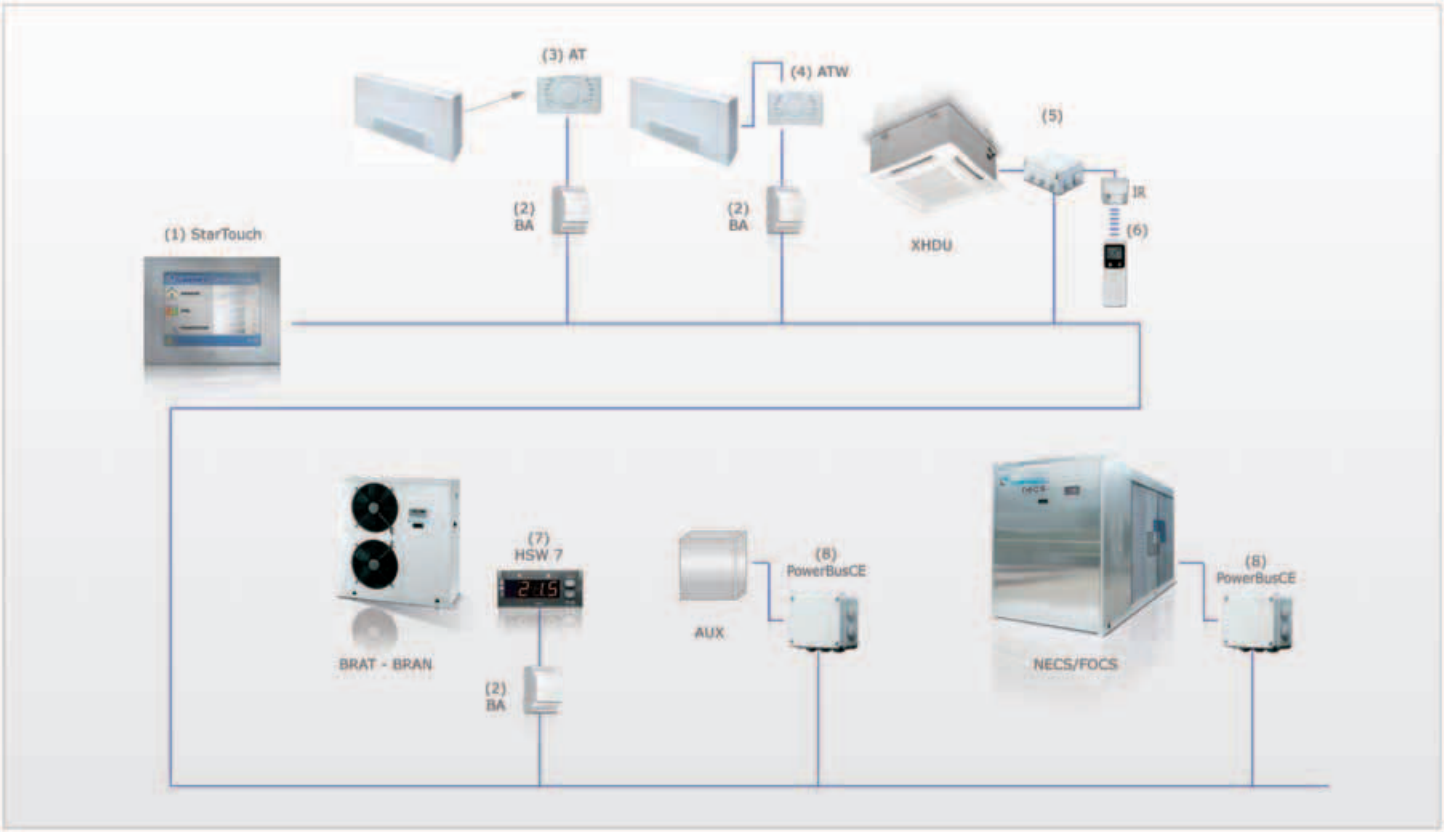
Water chillers and heat pumps

- Models present on Climaveneta Home System (BRAT, BRAN, MICS, MICS-N,etc.) and Commercial & Industrial catalogues

Auxiliary components suitable to be managed via digital contact

- On-Off boilers, On-Off pumps, zone valves, etc.

Operation diagram



Note

1. StarTouch: Compact user interface panel, with a 5,7" TFT colour display, suitable for Windows CE-based applications. I/O board includes 2 USB connectors type A (host), 1 RJ45 connector for Ethernet 10/100, 1 DB9 connector for the RS232 serial port, screw terminals for the RS485 serial port, 1 USB connector client type.
2. BusAdapter: Interface enabling the connection of the electronic controllers AT/ATW to a RS485 network; one interface required for each controller.
3. AT: Plug-in control; features: on-off, operation mode, fan speed mode, set-point selection, economy contact, window contact, remote cool/heat, hot start and too-cool functions.
4. ATW: Wall-mounted control; features: on-off, operation mode, fan speed mode, set-point selection, economy contact, window contact, remote cool/heat, hot start and too-cool functions.
5. BusCE: kit including controller and BusAdapter; to be used when it is necessary to conceal both components, managing the terminal via supervision or infra-red remote control.
6. IR: kit for the infra-red remote control composed of an infra-red receiver and associated remote keypad, which replicates all functions of the electronic controller.
7. HSW7: Mini-chiller control; it can be directly integrated in the serial line via BusAdapter (standard on units: BRAT, BRAN, BRA, BRH, etc.).
8. PowerBusCE: Interface enabling the connection of the auxiliary plant components (pumps, boilers, valves, etc.) and some type of chillers and heat pumps.
9. Serial cable: Serial communication cable: 2-conductor twisted pair, shielded, cross section reference AWG22. For wiring length over 1.5 km, feasibility assessment is required.

This operation diagram is purely representative and qualitative. Refer to the available technical documentation for compatibility and connection mode.