

Automatic control system C5 for VERSO, RHP and KLASIK units



Panel C5.1

- Modern design
- Extremely thin – only 12,5 mm
- Coloured touch-sensitive LED display
- Smart control
- Integrated thermometer and hygrometer
- Customized screen saver: up to 3 parameters can be displayed, when unit is in a stand-by mode
- 3 ways of fixing the panel

Detailed information for the user

- Air flow indication (m³/h, m³/s, l/s)
- Thermal efficiency of the heat exchanger (%)
- Heat exchanger energy recovery (kW)
- Thermal energy savings indicator (%)
- Air heater energy consumption (kWh)
- Heat exchanger recovered energy counter (kWh)
- Fans energy consumption (kWh)
- SFP factor of the fans*
- Clogging level of filters (%)

Various operating modes

- 5 different operation modes: *Comfort1*, *Comfort2*, *Economy1*, *Economy2*, and *Special*. User may set supply and extract air volumes as well as air temperature for each of mode separately.
- Temperature control modes: Supply air / Extract air / Room / Balance. Possibility to select which temperature to maintain.
- Flow control modes: Constant Air Volume (CAV), Variable Air Volume (VAV), Directly Controlled Volume (DCV).
- Universal operating schedule with up to 20 events, for which of them user can assign weekday(s) and one of five operating modes.
- Holliday scheduling allows the user to change operating mode or switch off the air handling unit at some dates of the year. Up to 10 events are possible.

Extended control possibilities

- Controlling up to 30 units connected into a network from one panel.
- Ability to connect the controller to the Internet network and manage it via a standard internet browser without any accessories.
- Possibility to control air handling unit by Smartphone via Android OS or iOS application software.
- Ability to control the unit not only by a control panel or a computer, but also by different external devices (switch, timer, etc.) and systems (e.g. the smart house system).

Connectivity & Protocols

- Modbus RTU over RS-485
- Modbus TCP over Ethernet
- BACnet/IP over Ethernet



* only with PM fans

Energy saving C5 functions

Air quality control	Two different air quality values may be set for two different unit operating modes (e.g. <i>Comfort</i> and <i>Economy</i>). These values will be maintained by automatically increasing or reducing the intensity of ventilation
Outdoor compensated ventilation	This function adjusts the air volume depending on the outdoor temperature. It is possible to enter four temperature points where two of them define winter conditions and the other two define summer conditions. Upon entering the compensation curve according to the outdoor temperature, the current intensity of ventilation is decreased or increased accordingly
Summer night cooling	This function is intended for energy saving in summer: utilising the outside chill of night hours to cool down the heated rooms. The user may enable or disable function at any time as well as set the room temperature at which the function is automatically activated
Override function	Override control of the unit can be performed by an external device (timer, switch, thermostat, etc.). The signal received from the outside activates the function which switches the unit to the pre-programmed mode ignoring the current operating mode
Minimum temperature control	This function forces the reduction of the supply and extract air volumes set by the user when the heater capacity available in the unit is insufficient and/or heat recovery does not ensure the supply of the minimum temperature to the room
Humidity control	An air handling unit can be ordered with an air humidity control function. If this function is available the user is able to choose the humidity control location: supply air, extract air or room. The user is also able to choose the method of control: humidification, dehumidification or both at a time
Circulation pumps control on demand	Both heating and cooling pumps are controlled according to the current need for heating or cooling instead of a season control
Air flow density compensation	Air density depends on the temperature. The controller has a function which adjusts the air flows automatically to avoid any misbalance in rooms while being ventilated
Operation on demand	The air handling unit start-up function is designed to start the unit operating in off mode when one of the selected parameters (CO ₂ , air quality, humidity, or temperature) has exceeded the critical limit
Change-over function	Control of combined water heater cooler and DX cooler reversing to the heating mode
Additional zone control	Option for independently control of additional heaters and coolers in separately ventilated area. Up to two additional temperature zones can be controlled
Recirculation control	The controller has a modulated extract air recirculation function. There are four control options: 1) recirculation according to the air quality which may be defined by one of the selected parameters: CO ₂ , air pollution by organic components and chemical substances, humidity or temperature; 2) recirculation according to the external temperature curve; 3) recirculation according to a weekly schedule; 4) recirculation controlled by an external device
Recirculation limitation by temperature	Recirculation may be limited according to the need for heating or cooling. In cases where recirculation is controlled automatically according to one of the air quality sensors or the recirculation level set by the user, the required value of extract air recirculation may be ignored if recirculation heats or cools down the supplied air too much. In such a case recirculation is forcibly reduced until the temperature of supply air set by the user has been reached

Safety features

Rotary or plate heat exchanger failure protection	This function observes the thermal efficiency of the heat exchanger. If it does not reach the required level a fault is recorded and indicated
Rotary or plate heat exchanger anti-frost	Under the low outdoor temperature conditions, this function is constantly observing decreasing tendency of the heat exchanger thermal efficiency, determines the moment when the heat exchanger starts freezing, and activates the defrosting function automatically
Service time	A warning message appears when the continuous operation of the AHU has reached 12 months
Rotor warm-up function	This function forcibly activates the rotary heat exchanger if the air handling unit is turned off for some time and the temperature inside the unit or ventilation system is low enough for the rotor to freeze
Circulation pumps start-up in off mode	This function starts water circulation pumps for a short period of time when they are off longer than the set period
Warning for too low air flow	If the air handling unit does not reach the air volume set within the time set, the user is warned by an informative message
External stop	Shut-down function from external device. May be used with or without an automatic unit restart
Emergency shut-down in case of fire	The external fire alarm is provided when the unit is connected to the building fire alarm system. There is also an internal fire alarm to detect an increased temperature inside the air handling unit or the ventilation system
Intelligent self-diagnostic	Self-check function of controller and elements of the air handling unit. If a fault is detected, controller terminates the operation of the unit and warns about such a fault using the respective informative messages