Control systems

For end users

Smart control systems C6, C6M, C8

Core philosophy behind the design of these control systems was that the ventilation unit would operate properly without constant adjustments from the user.

Control panels

C6.1

- Setting of all parameters from the panel
- Indication of parameters
- Colored touch-sensitive LED display

C6.2

- Simple control
- Operation modes
- Touch-sensitive screen

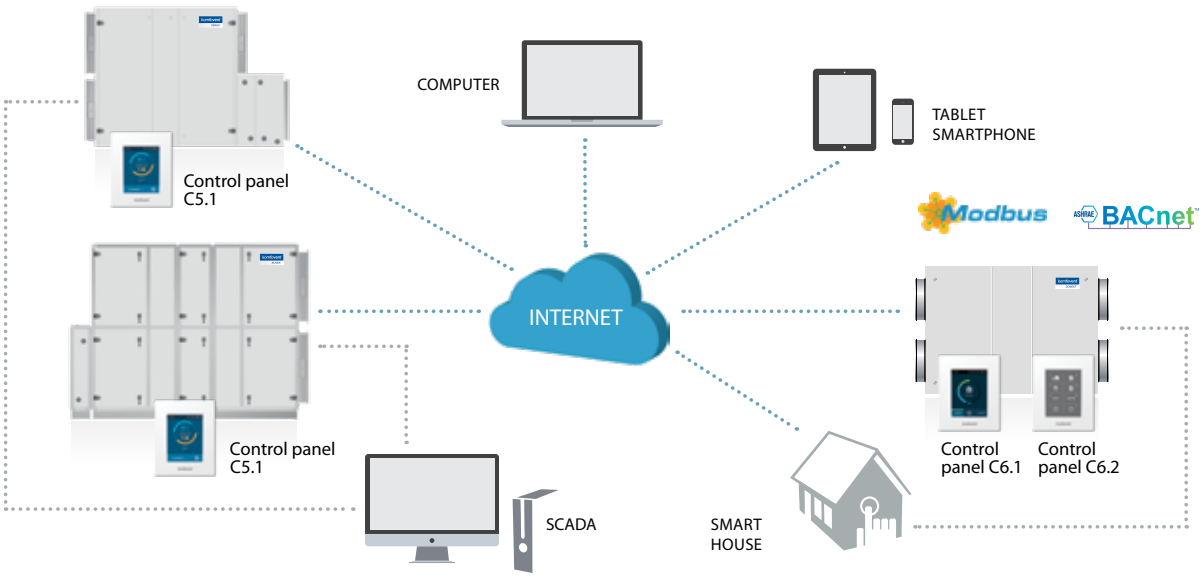
For professionals

Control system C5

The user is given detailed information about the operation of the device. A variety of modes and functions allows you to choose the most optimal operating mode that maximizes energy saving.

Control panel

C5.1



Extensive control options
Smart controller algorithms provide a wide range of control capabilities that ensure maximum energy savings while maintaining a high level of comfort in ventilated areas: air quality control, performance on demand, summer night cooling, VAV, CAV and many more.

User-friendly control
Controllers are easily and conveniently controlled. The user can monitor the operation parameters and change the settings in one or several ways convenient for him: using a control panel that has a touch-sensitive LED display, a mobile application, or a web server.

Integrated, specially designed automation
Fully integrated automatic control KOMFOVENT ensures the safe and reliable operation of air handling units, controls the system settings and optimizes the operating costs of the unit.

"Plug and Play" solution
All units are completely prewired and have an integrated automatic control, which are already preprogrammed with basic ventilation modes and temperature setpoints.

Web server
KOMFOVENT units have integrated web server for controlling and monitoring the units' operation internet browser.

Apps
Smartphone applications "Komfovent C5" and "Komfovent Control" are specially developed for more convenient control. Applications fully replicate the control panel functions. A user-friendly interface enables clear and easy air handling unit control.

LogPlotter
Units' operation analysis tool for service and maintenance staff LogPlotter. The program has been designed to analyze the unit's operation history. Unit's operation can be monitored not only in real-time from now on.

Integration to BMS
Implemented Modbus and BACnet protocols allow easy integration of KOMFOVENT air handling units to the desired Building Management Systems. A large number of units can be connected into a single building monitoring and control system.

Quality and guarantee
Everything is installed and tested at the factory. Each unit produced passes a two-stage quality control. Firstly, it is checked in production, secondly, even more thorough, the parameters are checked and a performance check carried out before it is sent to the customer. Therefore, the customer can be sure that the device and its control system are properly synchronized and ready for operation.

Your home indoor climate in your hand with **Komfovent Control** app

Download on the App Store

ANDROID APP ON Google play

Smart control systems C6, C6M, C8 for DOMEKT units

For both: beginners and advanced users
A user-friendly interface enables intuitive navigation and control of the unit. Core philosophy behind the design of C6, C6M, C8 was that the ventilation unit would operate properly without constant adjustments from the user. Different ventilation modes are optimized for the user's daily needs. Automatic air quality control selects the most appropriate mode and ensures the comfort conditions in the room.
Advanced users can control unit's operation according to his needs, as many settings and control possibilities are provided as well:
- Airflow control: CAV / VAV / DCV*.
- Intensity control by air quality, CO_2, humidity level.

Operating modes
- 8 preset modes.
- Intelligent energy saving algorithms.
- Automatic air quality control with optional AQ sensor.
- Extensive weekly schedule.

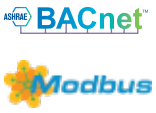
Energy counters*
- Real-time energy consumption indicator.
- Possibility of observing the running costs of ventilation unit.
- Heat recovery counter.

Control options

App "Komfovent Control"

Control panel

Webserver



Connectivity & Protocols

"Komfovent Control" app
New cloud-based application is designed to control residential ventilation units with C6, C6M, C8 control system. User-friendly interface ensures intuitive control. As the application fully replicates a control panel functions, you will have an access to all monitoring and control possibilities available in the control panel.

The application is available on Google Play and App Store.

* Except C8 control system.

KK-21-06

SMART CONTROL FUNCTIONS	C6	C6M	C8
Air temperature control The unit can control air temperature according user-defined supply or extract temperature setting. If the user desire, room ambient temperature can also be maintained according to the temperature sensor located in the control panel	✓	✓	✓
Temperature balance control The temperature support value of the supply air is automatically set on the basis of the current extract air temperature, i.e., the extract air temperature and the supply air temperature will be the same	✓	✓	✓
Fan intensity control Fan speed can be adjusted smoothly between 20-100%, thus ventilation intensity can be set easily by the user	✓	✓	✓
Constant air volume control (CAV) The unit supplies and extracts a constant air volume as set by the user, regardless of changes in the ventilation system	✓	✓	
Variable air volume control (VAV) The unit supplies and extracts air volume correspondingly to the ventilation requirements in different premises	✓	✓	
Directly controlled volume (DCV) The air volumes are controlled by direct external control signals	✓	✓	
External water coil control There is estimated an additional water duct heater or cooler control that can be activated by the user on the control panel	✓	✓	
External DX unit control There is estimated an additional external direct expansion (DX) unit control that can be activated by the user on the control panel	✓	✓	
External heater or cooler control There is estimated an additional duct heater or cooler control that can be activated by the user on the control panel. Water or direct expansion (DX) heating/cooling device can be connected and controlled as a second step for reaching desired air temperature			✓
Combi-coil control Heating or cooling with water by using just one circulation pump and one 3-way valve. Heating and cooling modes can be switched automatically according water temperature, or by external switch		✓	
Weekly operation schedule It is possible to choose one of the four pre-set weekly operation schedules. If necessary, the schedule can be modified. As well holiday schedule can be set, when unit will not operate for most of the time, but ventilate premises occasionally	✓	✓	✓
Air quality control Upon connecting the additionally ordered an external air quality or humidity sensors, the ventilation intensity is chosen automatically. The ventilation unit can even be stopped, when air quality level is bellow set value and restart automatically only when air quality is getting worse. In this way, the optimum room comfort is ensured with the minimum energy cost	✓	✓	✓
Cool recovery During the summer season, in the conditioned premises cool from extract air is returned back into the premises	✓	✓	✓
Temperature saving function The automatic function attempts to maintain comfortable temperature conditions in the premises by reducing the ventilation intensity, i.e., it prevents excessive cooling down or overheating of the premises	✓	✓	✓
Free cooling When the room temperature air exceeds the set value, and the outdoor temperature is lower than the room temperature, the heat recovery and the other heating/cooling processes is blocked automatically and free cooling are performed only by fans	✓	✓	✓
Variable speed rotary heat exchanger By modulating rotation speed of heat exchanger, it is possible to maintain supply air temperature more precisely, to reduce rotation noise and to prolong exchanger motor life time		✓	
Ventilation control by 3 external contacts Air flow can be controlled by three external contacts, each of which can be assigned to different ventilation intensity	✓	✓	
Ventilation control by 1 external contact Airflow can be controlled by an external contact, which can be assigned to change ventilation intensity when needed, for example together with kitchen hood operation			✓
Control via internet browser or smartphone app When the device is connected to the computer network or the Internet, the user-friendly web interface allows the operator to control the equipment with a computer or with another mobile device	✓	✓	✓

SMART CONTROL FUNCTIONS	C6	C6M	C8
Air dehumidification If the relative humidity of the room exceeds the set limit, the air handling unit's operating intensity is increased until the humidity is reduced to the desired level. To make the function more efficient, the unit is recommended to be equipped with a refrigeration unit and an additional duct humidity sensor	✓	✓	✓
Energy counters Real-time energy consumption indicator. Possibility of observing the running costs of ventilation unit. Heat recovery counter. Day, month or overall time counters are available for ventilation unit operation analysis	✓	✓	
Operation time counters Fan, heat exchanger and heater working times are monitored. Day, month or overall time counters are available for ventilation unit operation analysis.			✓
Timed ventilation modes Three ventilation modes can be started for duration of several minutes, without changing programmed schedules. User can simply set timer from 1 to 300 minutes, for the desired mode to run ignoring main weekly schedule.	✓	✓	✓
Operation on demand The ventilation unit will operate when the air quality in the premises exceeds the set levels. An additional air quality sensor is required or humidity sensor integrated in the control panel can be used for the same purpose.	✓	✓	✓

SAFETY FUNCTIONS	C6	C6M	C8
Filter clogging indication Clogging of the air filters is measured depending on the duration and intensity of the unit's operation. The user is informed by a message, when it is time to change air filters	✓	✓	✓
Heat exchanger frost prevention Units with a counter-flow plate heat exchanger have a primary electric heater that is controlled as needed, and is operated only at the capacity to ensure frost protection. In this way, the ventilation unit can operate in low outside temperatures	✓	✓	
Heat exchanger frost prevention Special frost protection algorithm combining by-pass damper and fan speed regulation prevents freezing of counter-flow heat exchanger even at negative outdoor temperatures (up to -10°C). For additional protection, duct mounted pre-heater control is also available			✓
Heat exchanger failure indication In units with plate or rotary heat exchanger, a control system monitors the thermal efficiency, and if it does not reach the stated level, a fault is indicated	✓	✓	✓
Water heater frost protection For the duct mounted water heater, it is ensured the maximum protection from water freezing during the unit's operation. Even when the unit is switched off, warm water circulation is supported as additional help during cold season	✓	✓	✓
Electric heater overheat protection Electrical heater shuts down automatically in case of overheating to prevent damage to the heater components and electronics. Additionally, when unit is stopped during the heater operation, fans will continue to operate for set time period to cool down the heater	✓	✓	✓
Low air flow indication If the ventilation unit does not reach the set air volume during the specified time, the unit's operation is stopped	✓	✓	
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	✓	✓	✓
Fire damper control Possibility to monitor and perform periodical fire damper system tests directly from the control panel. External fire damper controller constantly checks fire dampers functionality and gives the feedback to the ventilation system	✓	✓	✓
Emergency shut down when temperature reaches critical limits When the supply air temperature drops below or exceeds the permitted value, the unit is stopped	✓	✓	✓
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	✓	✓	✓