



Operation instruction
Remote control manual for heat recovery units
with ecoVENT MIDI control system





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The device is manufactured in accordance with the European standard EN1886, EN13053

This documentation must always be handed over to the customer!

In case of non-compliance with the conditions stated in this documentation, VentiAir s.r.o. reserves the right to refuse the warranty.

Version 02/2021



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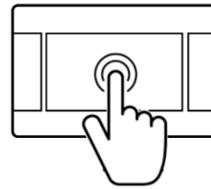
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1.2 CONTROLLING THE CONTROLLER

EcoTOUCH panel:

A touch screen has been used to control the device.



Settings change is done using rotary menu.

Selection and edit in the menu is done by pressing desired symbol on the screen. Grouped parameters from the selected menu are displayed on one screen. An example of such parameters grouping is shown in the figure below.

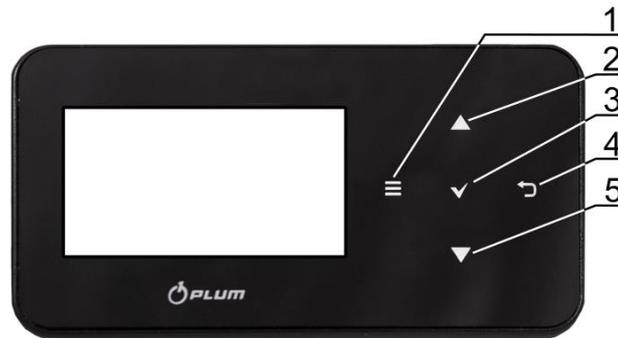


On-screen symbol meanings:

-   - return to the previous menu or no acceptance of parameter setting
-  - fast return to the main screen from each menu level
-  - information about selected parameter
-  - main menu
-   - decrease or increase parameter value
-  - service menu
-   - sliding list of parameters
-  - enter selected menu option or accept selected parameter setting
-   - decrease or increase value of the on-screen selected parameter

simTOUCH2 panel:

The controller is operated via touch buttons that allow selecting items from the menu and edition of parameters.



Buttons description:

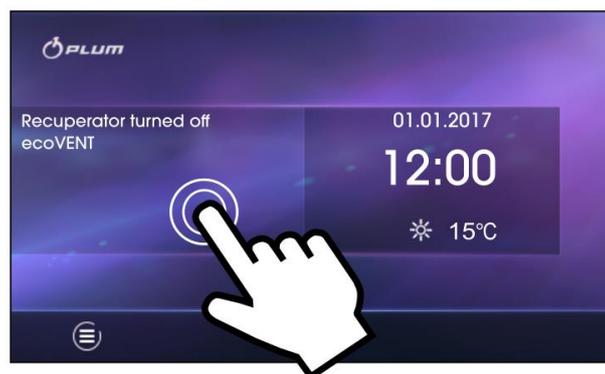
1. MENU - entry button.
2. The parameters selection from the list button, increases the value of the edited parameter and switches between main screens.
3. ENTER – confirmation.
4. EXIT.
5. The parameter selection from the list button, reduces the value of the edited parameter and switches between the main screens.

1.3 SWITCHING CONTROLLER ON AND OFF

The ecoTOUCH panel:

After switching on the controller recalls its status from the moment of switching it off. If the controller was not active before, it will start in the "Stand-by" mode. In this mode it displays the current date and time, external temperature and information: "Recuperator turned off".

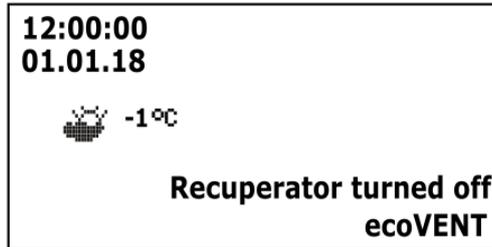
To start the controller, press anywhere on the screen, then the following message will appear: "Turn on the recuperator?".



There is also another method of controller turn on. Press Menu button, find and press  symbol in a pie menu. To turn off the controller - press Menu button, find and press  symbol in a pie menu.

simTOUCH2 panel:

After switching on the controller recalls its status from the moment of switching it off. If the controller was not active before, it will start in the "Stand-by" mode. In this mode it displays the current date and time, external temperature and information: "Recuperator turned off".



To start the controller, touch the ✓ button, then a message will appear: "Turn on the recuperator?". Confirm by pressing ✓ again, which turns the controller on.

To turn off the controller, on any of the main screens, touch the ↶ button and confirm to turning the controller off.

1.4 MAIN SCREENS

ecoTOUCH panel:

The controller has two main screens. First: with the displayed parameters and operation modes, with the function of editing and reading information, second: with automation scheme displayed. The view between these screens can be switched.

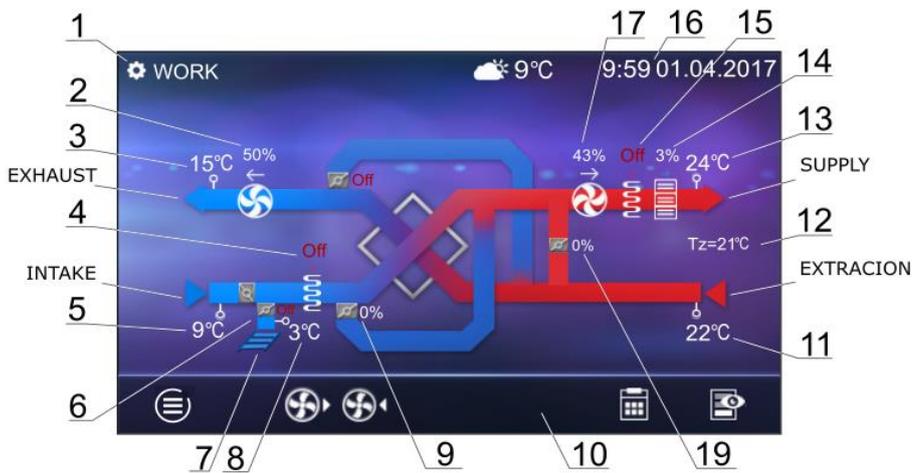


Main screen with options to read information and change selected parameters.

1. Settings for main mode and user modes.
2. Additional mode selection.
3. Main menu access.
4. Information field, e.g.: Active alarms - press to display a list of all current alarms.
5. Schedules settings.
6. Switching between main screens.

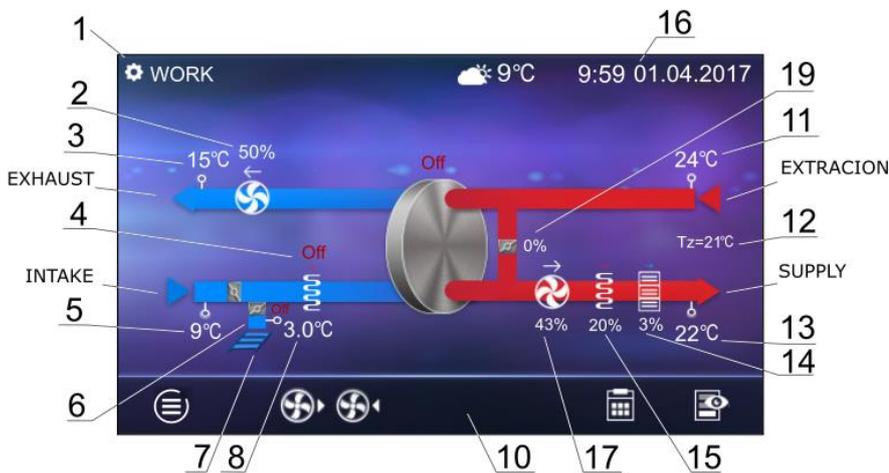
7. Basic information – press to display all available information about controller operation status.

The values shown in the screen are only indicative.



Main screen with cross-flow exchanger.

Prevádzková schéma uvedená na hlavnej obrazovke sa môže líšiť v závislosti na tom, či sú k regulátoru pripojené jednotlivé zariadenia vetracieho systému, napríklad: klapky, ohrievače. Zobrazenie hodnôt slúži len na informačné účely.



Main screen with rotary exchanger.

Legend:

1. Regulation modes: OPERATION, OPERATION-Heating, OPERATION-Cooling, DEFREEZING, PAUSE, Exchanger cleaning, Heater cooling, Airing.
2. Exhaust fan adjustment:
 - exhaust fan work (along with the current control);
3. Exhaust temperature.
4. Operation of the heater primary electricity or water.
5. Intake temperature (outside temp.).
6. Ground heat exchanger throttle actuator position.
7. Ground heat exchanger (GHE).
8. GHE temperature.
9. Bypass throttle actuator position.
10. Information:



- [R1], [R2] – exceeding the demand for expenditure change threshold;
- [SAP] – signal from the fire control unit;
- [ECO] – signal from the alarm central;
- [TR1] – primary heater thermostat trip
- [TR2] – secondary heater thermostat trip;
- [R1], [R2] – prekročenie limitu zmeny požiadavku na výkon
- [SAP] – signál od systému požiarnej ochrany
- [ECO] – signál z centrálného alarmu
- [TR1] – vypnutie termostatu predhrievača
- [TR2] – vypnutie termostatu dohrievača

11. Extraction temperature;
12. Preset temperature;
13. Air supply temperature;
14. Cooler work (Freon- or water-);
15. Working secondary heater (electrical- or water-).
16. Time and working day.
17. Supply fan control:



- supply fan work (along with the current control).

Position of the mixer actuator.

simTOUCH2 panel:

The controller has two main screens: information screen with basic parameters and automation scheme screen. Switching between screens is done by touching the (2) and (5) buttons.

Legend:

1. Regulation modes: Operation, Operation-Heating, Operation-Cooling, De-freezing, Pause, Exchanger cleaning and water removal, Airing, Heater cooling.
2. Preset air supply temperature.
3. Measured air supply temperature.
4. Supply fan speed.
5. Exhaust fan speed.
6. Information field of measured temperatures.
7. Time and working day.
8. Operation modes: Pause, Mode 1...4 (U1...4).
9. Information:

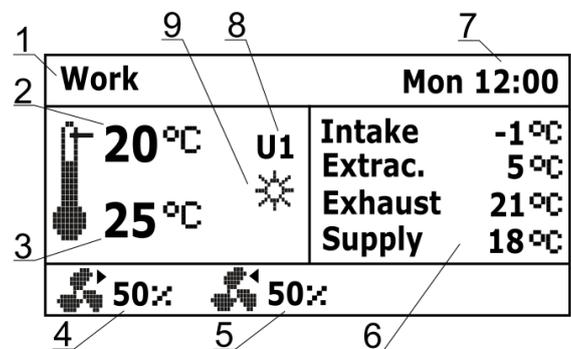


- summer mode active



- fireplace mode.

Information screen



- 10. Exhaust temperature.
- 11. Exhaust.
- 12. GHE temperature and the position of the actuator.

GHE: - OFF, - ON

- 13. Intake.
- 14. Intake temperature (outside).
- 15. Information:

ALARM – alarm signaling

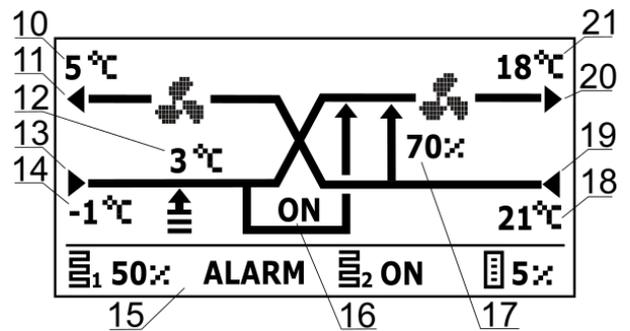
- operation of the primary heater

- secondary heater operation

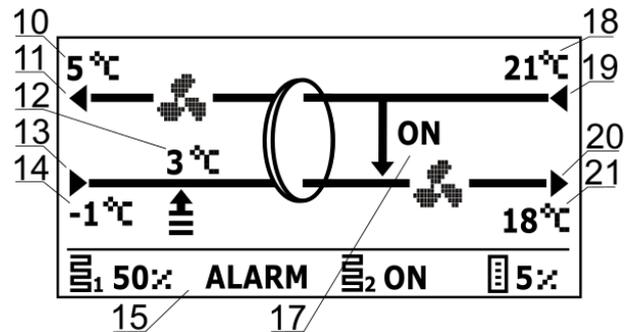
- cooler operation

- 16. Position of the bypass actuator.
- 17. Position of the mixer chamber actuator.
- 18. Extraction temperature.
- 19. Extraction.
- 20. Supply.
- 21. Supply temperature

Main screen with cross-flow exchanger



Main screen with rotary exchanger



1.5 CONTROLLER OPERATION MODES

prevádzkové režimy regulátora, podľa ktorých je nastavené vetranie

The controller operation modes according to which ventilation is adjusted.

- *Operation* – the controller, including user settings, controls the ventilation to achieve the preset temperature in the room.
- *Operation-Heating* – the controller, disregarding low external temperature, seeks to keep preset temperature in the room; to achieve it first selects the source with the highest available air temperature, then depending on fulfilling conditions, starts secondary heater.
- *Operation-Cooling* - the controller, disregarding high external temperature, seeks to keep preset temperature in the room; to achieve it first selects the source with the lowest available air temperature, then depending on fulfilling conditions, starts the cooler.
- *Defrosting* – the controller prevents exchanger to freeze, by adjusting fans speed and starting primary heater.
- *Pause* – the controller stops recuperator operation, only protection functions are operational.
- *Exchanger cleaning* - the controller activates the cleaning mode by switching on the fans to maximum power.
- *Exchanger dehydration* – controller starts exchanger dehydration function, while holds fans operation.

- *Heater cooling* - the controller sustains air supply fan work for a set time, to cool electric heaters.
- *Airing* - the controller turns on airing function.

1.6 DEVICE OPERATING MODES

Settings regarding controller operation modes, according to which control will be performed, are in the menu:

Menu → Operation modes

Menu → Operation modes device

The ecoTOUCH screen allowing setting of active controller functions is in the menu:

Menu → Operation modes → Recuperator operation modes

- *Recuperator operation mode (Operation mode)* – recuperator mode settings. Selecting *Pause* mode will stop recuperator, only protection functions stay active. This mode can be applied to prevent unpleasant odors from the outside. It is possible to select one of modes *Mode 1...4*, settings of which can be defined by user.
- *Time mode (Timed operation mode)* – turning on one of the additional recuperator operation modes. Available settings:
 - *Off*: turn off active time mode.
 - *Output mode*: holds on recuperator operation, this mode can be applied e.g. for a period of leaving the room by user.
 - *Party mode*: increases fans expenditure and amends preset temperature value, this mode can be applied e.g. during the presence of large number of people in the room.
 - *Airing mode*: amends exhaust fan expenditure, while turning off air supply fan, this mode can be applied e.g. for fast air exchange in the room.
- *Summer/winter (Summer/winter mode)* – recuperator control mechanism setting
 - *Winter mode*: blocks cooler and Bypass.
 - *Auto mode*: selection of active mechanism according to settings and external temperature
 - *Ventilation*: blocks cooler and heaters.
- *Fireplace (Fireplace function)* – allows turning on fireplace function. If this function is on the control of exhaust fan will be depending on air supply speed and preset difference in *Speed* parameter.
- *Schedules* – allows turning on controller according to user defined schedules.

The ecoTOUCH screen allowing setting of control mode is in the menu:

Menu → Operation modes → Summer/winter

- Setting mode according to which the control will be performed. Similarly to **Summer/winter** menu into **Recuperatio operation mode** menu.
- *Winter mode turn on* – temperature value below which, with auto mode active, winter mode will be turned on.
- *Hysteresis of summer mode on* – hysteresis value of mode amendment, if auto mode is active and external temperature increases above *Winter mode turn on + Hysteresis of summer mode on* the summer mode will be activated.



1.7 SETTINGS OF OPERATING STATES

Settings related to operation modes, timed modes and additional operating states of the controller, during which we change the control status of the ventilation unit for a specified period of time, can be found in the menu:

Menu → Operation modes → Operation states settings

Menu → Operation modes device → Operation states settings

- *User modes settings* – redirects to user modes settings, described in item 7.4
- *Time modes settings* – menu allows to define time modes settings, for *Airing* mode it is possible to set mode duration time (*Duration time* parameter), preset temperature (*Preset temp.* parameter), fans speed: air supply (*Air supply* parameter) and exhaust (*Exhaust* parameter), for *Out* mode it is possible to set its duration time (*Duration time* parameter).
- *Schedules settings* – redirects to schedules setting panel, described in item 7.11
- *Control leading sensor* – setting, according to which sensor the remote temperature control is performed, available: *Air control sensor*, *Exhaust sensor*, *Panel sensor*.
- *Panel address* – if leading sensor is set to panel sensor, then panel address, from which temperature value is read, must be set.

1.8 USER MODES

Menu allows individual setting, for each user mode 1...4, air supply speed (*Air supply*), exhaust speed (*Exhaust*) and preset temperature in *Preset temp.* parameter.

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1.9 PRESET TEMPERATURE SETTING

The preset temperature of the recuperator is set in the menu:

Menu → Preset temperature

Additionally, it is possible to set, according to which sensor the temperature control will be adjusted by the parameter *Control leading sensor*. Available for selection are: *Supply sensor*, *Extraction sensor* and *Panel Sensor* allowing defining address of the panel with leading sensor.

1.10 BALANCED VENTILATION FUNCTION

The controller has balanced ventilation function that adjusts the flow of air flow and pressure in ventilation ducts. The function allows to increase the efficiency of heat recovery, system resistance e.g. against air filter dirtying, exchanger resistances change due to humidity or dirt, starting air flow via ground heat exchanger.

The balanced ventilation function requires the connection of differential pressure sensors

The function turn on and configuration is done in Installer menu.

1.11 GHE SUPPORT

The controller supports ground heat exchanger (GHE) as a part of the ventilation system. The ground temperature is used here, which is higher than air temperature for the most part of the year.



GHE support requires connection of external temperature sensor.

The *GHE support* parameter allows selection GHE operation mode:

- *Close* – the controller turn off glycol pump or closes the throttle cutting off the air flow via GHE.
- *Open* – the controller turn on glycol pump or opens the air throttle on the GHE pipe GHE.

Auto - the controller turns on or off GHE depending on preset user settings, external temperature and GHE temperature. Turn on can be done in two modes: heating mode – winter turn on and in cooling mode – summer turn on. Winter turn on of GHE will be performed if external temperature drops below *Winter opening temp.* and while GHE sensor temperature is higher than temperature on external temperature sensor. Summer opening will be performed if external temperature increases above *Summer opening temp.* and while GHE sensor temperature is lower than temperature on external temperature sensor

The external temperature value is measured by a temperature sensor mounted on an intake.

In case of no GHE temperature sensor connected or its support is off in installer menu, the GHE control will depend on only from the external temperature sensor readings.

Additional GHE control settings are in the menu:

Menu → GHE → Control settings

- *GHE max. opening time* – maximum duration of GHE throttle opening. After that time the GHE regeneration procedure will start.
- *GHE regeneration time* – duration of the GHE regeneration. During regeneration process the GHE throttle remains closed.
- *Manual start* – manual start of the regeneration without waiting for the fulfilment of the temperature and time condition.

1.12 SUPPORT OF BY-PASS

The Bypass menu contains settings related to the bypass and allows selecting control type for the cross-flow exchanger bypass throttle.

The throttle can be constantly open (*Open* parameter – no heat recovery and exchanger freezing risk), constantly closed (*Close* parameter) or in auto mode (*Auto* parameter), during which throttle will be open depending on fulfilment of open conditions. When bypass is open the inner rooms can be cooled to preset temperature using cooler air from the outside.

1.13 SUPPORT OF ROTARY EXCHANGER

The **Heat recovery** menu contains settings related to the rotary exchanger.

The rotary heat exchanger can be constantly stopped (*No recovery* parameter) or rotate at the maximum speed (*Maximum recovery* parameter). The rotary exchanger can be also controlled according to controller's algorithm with *Auto* parameter. If the rotary exchanger is stopped, the air inside the room is cooled to preset temperature using air from the outside.



1.14 ALARM CENTRAL

Settings related to supporting signal from alarm central. After receiving signal from the alarm central the fans expenditure will be changed according to the following menu settings:

Menu → Alarm central

- *Alarm central support* – turns on/off alarm central support. If the function is active, then after receiving signal from alarm central the controller operation will be amended according to alarm central settings.
- *Logical state* – setting logical state of digital input: *NO* (normally open) or *NC* (normally closed).
- *Recuperator reaction* – setting the recuperator reaction to central alarm signal. If *Turn off recuperator* is selected, then after receiving signal the recuperator will be turned off. Otherwise, fans speed will be amended to the settings defined by *Exhaust* and *Air supply*.
- *Airing* – turn on/off airing function, it works only with central control mode on and *Turn off recuperator* option off.

The airing settings are in the following menu:

Menu → Alarm central settings → Airing settings

- *Exhaust fan speed, Air supply fan speed* – allow setting fans speed during airing.
- *Airing time* – parameter defining time, through which airing is performed.
- *Periodic airing time* – this parameter defines time periods between succeeding airing cycles.
- *Secondary heater work during airing* – turning on/off permission of secondary heater to work during airing.

1.15 SCHEDULES

The menu allows to set the schedules of the recuperator work.

Programmed schedule is stored in internal memory and is not deleted during the power outage.

ecoTOUCH panel:



Schedules support can be turned on in two ways: via *Schedules* parameter, in the menu:

Menu → Operation modes → Recuperator operation modes

or via *Schedules* parameter, in the menu:

Menu → Operation modes → Operation modes settings → Schedules settings

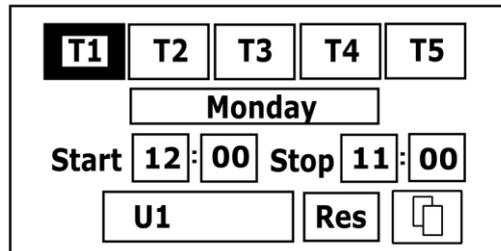
In schedules menu 5 ranges of ventilation central work can be set for each day of the week (*Time 1...5*). For each range the duration time must be set (*Start* and *Stop* parameters: hours and minutes) and active work mode chosen (*Mode* parameter).



The  button allows to copy currently defined schedule to any day of the week.

The simTOUCH2 panel:

The menu allows to set the schedules of the recuperator.



Available *Time schedules support* in the menu:

Menu → Operation modes device → Work modes settings → Time schedule

is responsible for changing the main operation mode of the recuperator. Set the parameter to *ON*.

Up to 5 ranges (*T1...T5*) can be set for the selected day of the week to operate the ventilation system. For each range, set the schedule activation (*Start, Stop* parameters: hours and minutes) and select the active operation mode (*Mode* parameter).



Icon  allows to copy currently defined schedule to any day of the week. *Res icon clears set schedule.*

1.16 EXCHANGER CLEASNING

Cleaning start hour parameter allows setting the moment to start cleaning. The procedure will be started at the preset hour after reaching cleaning day.

1.17 GENERAL SETTINGS

The menu contains settings for user to set, related to general controller settings.

The ecoTOUCH panel:

-  *Alarms sound* – enable or disable alarms sound.
-  *Language* – language selection.
-  *Date* – setting the date. After entering the date a day of the week will be set automatically.
-  *Clock* – setting the hour. Changing time in any room panel will trigger time change in the controller.
-  *Brightness* – allows changing screen brightness.
-  *Button sound* – enable or disable the sound while pressing the touch screen.
-  *Software update* - software update of controller module and control panel. Description later in the manual.
-  *Address setting* - allows assigning a unique address of the control panel for the bus, with many room panels connected to the controller.

To ensure the correct system operation the control panel addresses must be from address pool 100...132.

-  *Parental control* – when turned on it blocks entering to the menu. Unlock by pressing the screen for 3 sec. (open padlock animation).
-  *ecoNET settings* – a WiFi network configuration in case of connecting ecoNET300 internet module to the controller. SSID – network identifier must be entered, WiFi security chosen and password for selected WiFi network entered. Further module configuration should be carried out in accordance with operation and maintenance documentation for ecoNET300.



- *Screen saver settings* – setting *Screen saver On/Off* parameter to *YES* will dim or turn off the screen after set time. Time delay to start the screen saver is set with *Time till screen saver* parameter. The backlight value during active screen saver mode is set with *Screen saver backlight* parameter.



- *Default settings* – restores the default settings of the panel and controller parameters to the customer.

The simTOUCH2 panel:

- *Button sound* – turn on or off the sound of pressing the keys.
- *Alarm volume* – loudness of the alarm signal.
- *Alarm sound* – enable or disable alarms sound.
- *Screen saver settings* – set the time to start the screen saver in the *Time till screen saver* parameter. In the parameter *Screen saver mode*, can select the screen saver mode for: *Off*, *On* or *Clock*.
- *ecoNET settings* – a WiFi network configuration in case of connection an internet module ecoNET300 to the controller. Enter SSID – network identifier, select type of WiFi protection and enter password for selected WiFi network.
- *Address settings* – setting a unique panel address for proper communication with module in case of connecting additional panels.
- *Brightness* – allows changing screen brightness.
- *Contrast* – contrast of the screen.
- *Language* – language selection.
- *Clock and Date* – time and date setting. After entering the date, the day of the week will automatic be set.
- *Software update* - software update in all devices connected to the controller module. Description later in the manual.

1.18 INTERNET MODULE COOPERATION

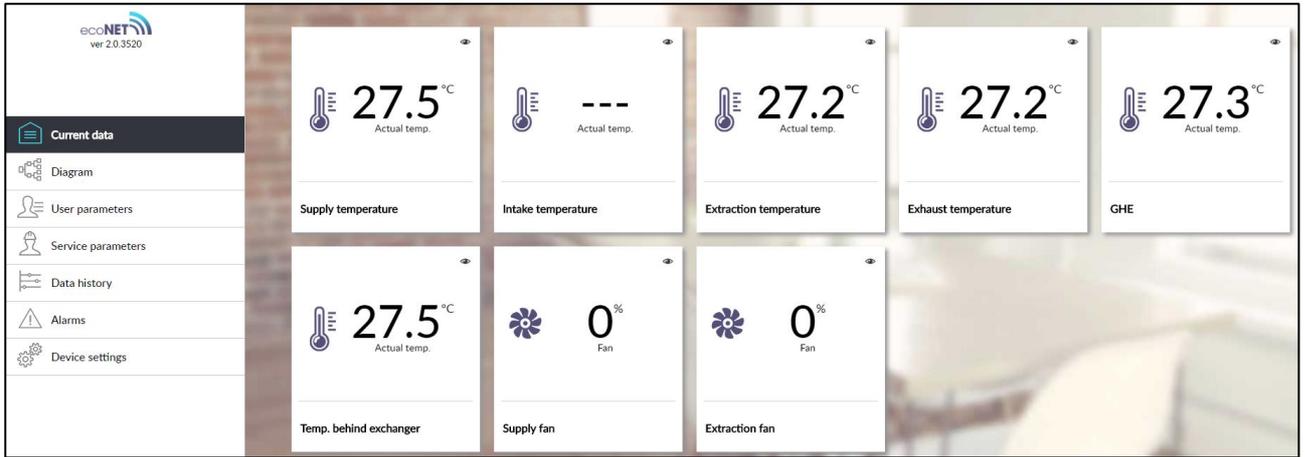
The ecoNET300 internet module enables remote maintenance of controller operation via Wi-Fi or LAN network, using www.econet24.com service.

Internet module will control the controller only with control panel connected to the module.

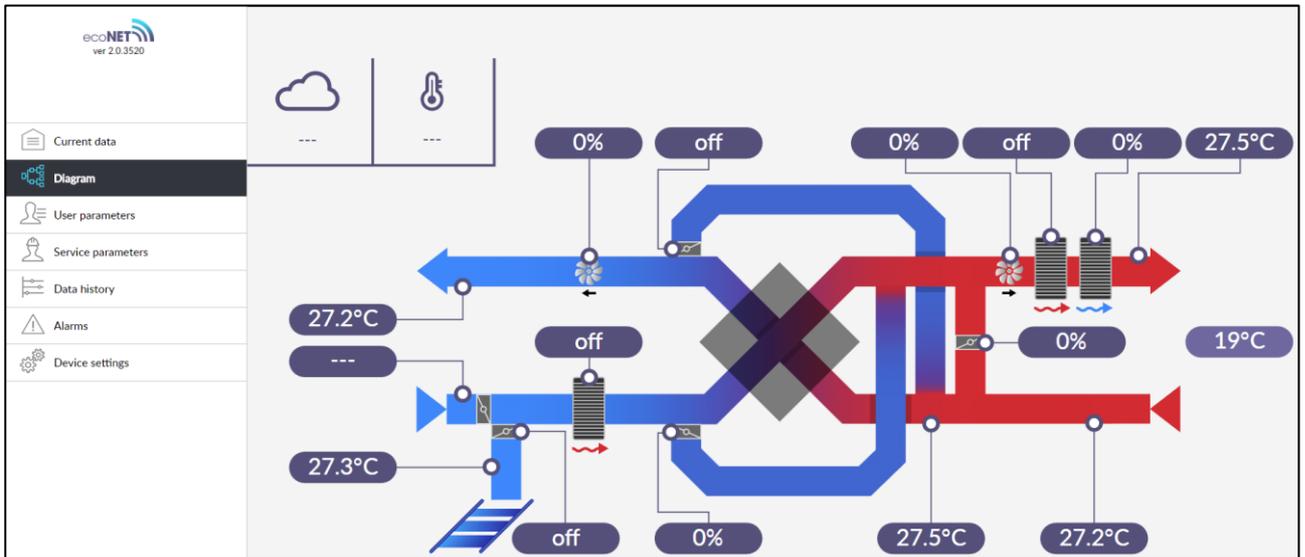
Using computer, tablet or smartphone with web browser installed or convenient application for mobile devices **ecoNET.apk** user can remotely monitor the controller and modify its working parameters. The application can be downloaded free of charge from:



The following is the appearance of the website and the mobile application for remote operation of the ventilation system with exemplary work parameter values.



Main current data



Installation ventilation scheme

1.19 ALARMS AND PROMPS



Working in the emergency state is allowed only under your supervision until the arrival of the service and rectify the fault. If the user's supervision is not possible, the controller should be disconnected from the power supply.

Alarm	Possible cause	Due to an alarm	Display
Error air supply temperature sensor	The sensor is damaged, or was not connected or not configured	Signaling alarm, stopping recuperator	Continually since the occurrence of the cause of the alarm, then the disappearance of the alarm.
Error temperature behind exchanger			
Error exhaust temperature sensor			
Error intake temperature sensor			
Error extraction temperature sensor			
Error leading temperature sensor	Leading sensor is damaged, falsely connected or not configured.	Signaling alarm, stopping recuperator	Continually since the occurrence of the cause of the alarm, then the disappearance of the alarm.
Error GHE temperature sensor	GHE sensor is damaged, falsely connected or not configured.	Signaling alarm, closing GHE	Continually since the occurrence of the cause of the alarm, then the disappearance of the alarm.
Active FAS alarm	FAS Alarm - recuperator stopped due to external signal	Signaling alarm, procedure supporting FAS	Continually since the occurrence of the cause of the alarm, then the disappearance of the alarm.
Dirt filter replacement deadline approaching	Dirt filter replacement deadline approaching - contact manufacturer's service department.	Signaling alarm	15 days before filter replacement deadline
Filter dirty - operating period expired, contact service	Filter might be dirty - call service to replace filters.	Signaling alarm, no display of energy recovery	Until new inspection date is entered by the installer
Possible dirty filter - R1 pressure switch signal	Pressure switch detected pressure difference before and after the air filter, possible dirty filter	Signaling alarm	Continually since the occurrence of the cause of the alarm, then the disappearance of the alarm.
Possible dirty filter - R2 pressure switch signal	Pressure switch detected pressure difference before and after the air filter, possible dirty filter	Signaling alarm	Continually since the occurrence of the cause of the alarm, then the disappearance of the alarm.
Periodic inspection approaches	Periodic inspection approaches - contact service	Signaling alarm	3 days before the general inspection
General inspection required by manufacturer's service	General inspection required - contact service	Signaling alarm	Until new inspection date is entered by the installer



Too high room supply air temp.	Detected too high room supply air temp.	Signaling alarm, protection procedure against too high temperature started	Continually since the occurrence of the cause of the alarm
Too low room supply air temp.	Detected too low room supply air temp.	Signaling alarm, protection procedure against too low temperature started	Continually since the occurrence of the cause of the alarm
Primary water heater thermostat operation noticed - soaking process started	Primary water heater thermostat operation signal noticed - soaking process started	Signaling alarm, soaking procedure	Continually since the occurrence of the cause of the alarm
Too low temperature of secondary heater	Low temperature or signal from secondary heater thermostat - heating procedure started	Signaling alarm, procedure recurring alarm electric heater	Continually since the occurrence of the cause of the alarm
Heaters thermostat operation noticed	Heaters thermostat operation noticed. Reset may be required.	Signaling alarm, procedure recurring alarm electric heater	Continually since the occurrence of the cause of the alarm
Heaters thermostat operation noticed three times	High temperature of electric heater - Heaters thermostat operation noticed three times. Too low airflow, heater thermostat may require alarm confirmation.	Signaling alarm, procedure of periodic recurring alarm electric heater	Continually since the occurrence of the cause of the alarm
Recuperator settings error, possible settings deletion	Deletion or no settings acknowledgement in service menu	Signaling alarm, stopping recuperator	Continually since the occurrence of the cause of the alarm
Manufacturer settings error, possible settings deletion	Deletion or no settings acknowledgement in service menu	Signaling alarm, stopping recuperator	Continually since the occurrence of the cause of the alarm
Device locked - unauthorized start-up	Unauthorized device configuration attempt	Signaling alarm, stopping and blocking recuperator	Continually since the occurrence of the cause of the alarm
No communication with the controller.	Possible damage to the transmission cable connecting the panel with the controller.	Signaling alarm, further work of the recuperator.	Continually since the occurrence of the cause of the alarm.
No communication with pressure/flow sensor for air supply	Communication error between controller and pressure/flow sensor for air supply channel. Possible damage or improper sensor connection.	Signaling alarm, further work of the recuperator.	Continually since the occurrence of the cause of the alarm.
No communication with pressure/flow sensor for exhaust	Communication error between controller and pressure/flow sensor for exhaust channel. Possible damage or improper sensor connection.	Signaling alarm, further work of the recuperator.	Continually since the occurrence of the cause of the alarm.
Air supply filter replacement deadline approaching	The air supply filter counter exceeded value preset with Filter replacement deadline alarm.	Signaling alarm	Continually since the occurrence of the cause of the alarm.
Exhaust filter replacement deadline approaching	The exhaust filter counter exceeded value preset with Filter replacement deadline alarm.	Signaling alarm	Continually since the occurrence of the cause of the alarm.
Air supply filter dirtying - turn off alarm central and replace filter	Possible air supply filter dirtying - replace filter. Alarm available if filter replacement is available for user.	Signaling alarm, ALARM output active	Continually since the occurrence of the cause of the alarm. After alarm acceptance filter replacement procedure starts.



Exhaust filter dirtying - turn off alarm central and replace filter	Possible exhaust filter dirtying - replace filter. Alarm available if filter replacement is available for user.	Signaling alarm, ALARM output active	Continually since the occurrence of the cause of the alarm. After alarm acceptance filter replacement procedure starts.
Air supply filter dirtying - call service	Possible air supply filter dirtying - call service for filter replacement.	Signaling alarm, ALARM output active	Continually since the occurrence of the cause of the alarm.
Exhaust filter dirtying - call service	Possible exhaust filter dirtying - call service for filter replacement.	Signaling alarm, ALARM output active	Continually since the occurrence of the cause of the alarm.
Filters replacement procedure	Alarm after overriding filters replacement procedure.	Signaling alarm, recuperator operation stops.	Continually since the occurrence of the cause of the alarm.
Emergency mode - filters worn out	Alarm in case of filters worn out and with recuperator operational in emergency mode.	Signaling alarm, ALARM output active; if emergency mode is OFF then controller turns off	Continually since the occurrence of the cause of the alarm.
Filters dirtying test - do not turn off central	Starting filters dirtying test procedure.	Signaling alarm	Continually since the occurrence of the cause of the alarm.

