USER'S MANUAL

PU SENS 01

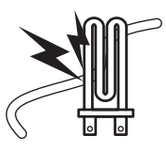
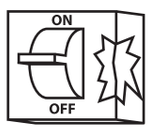
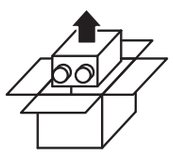
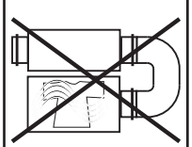
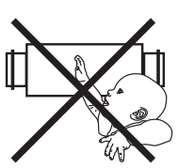
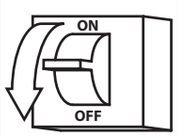
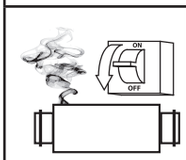
Sensor Control Panel

CONTENTS

SAFETY REQUIREMENTS

- Read the user's manual carefully prior to the operation and installation of the control panel.
- Installation and operation of the control panel shall be performed in accordance with the present user's manual as well as the provisions of all the applicable local and national construction, electrical and technical codes and standards.
- The warnings contained in the present user's manual must be considered most seriously since they contain vital personal safety information.
- Failure to follow the safety regulations may result in an injury or control panel damage.
- Read the manual carefully and keep it as long as you use the control panel.
- While transferring the equipment control the user's manual must be turned over to the receiving operator.

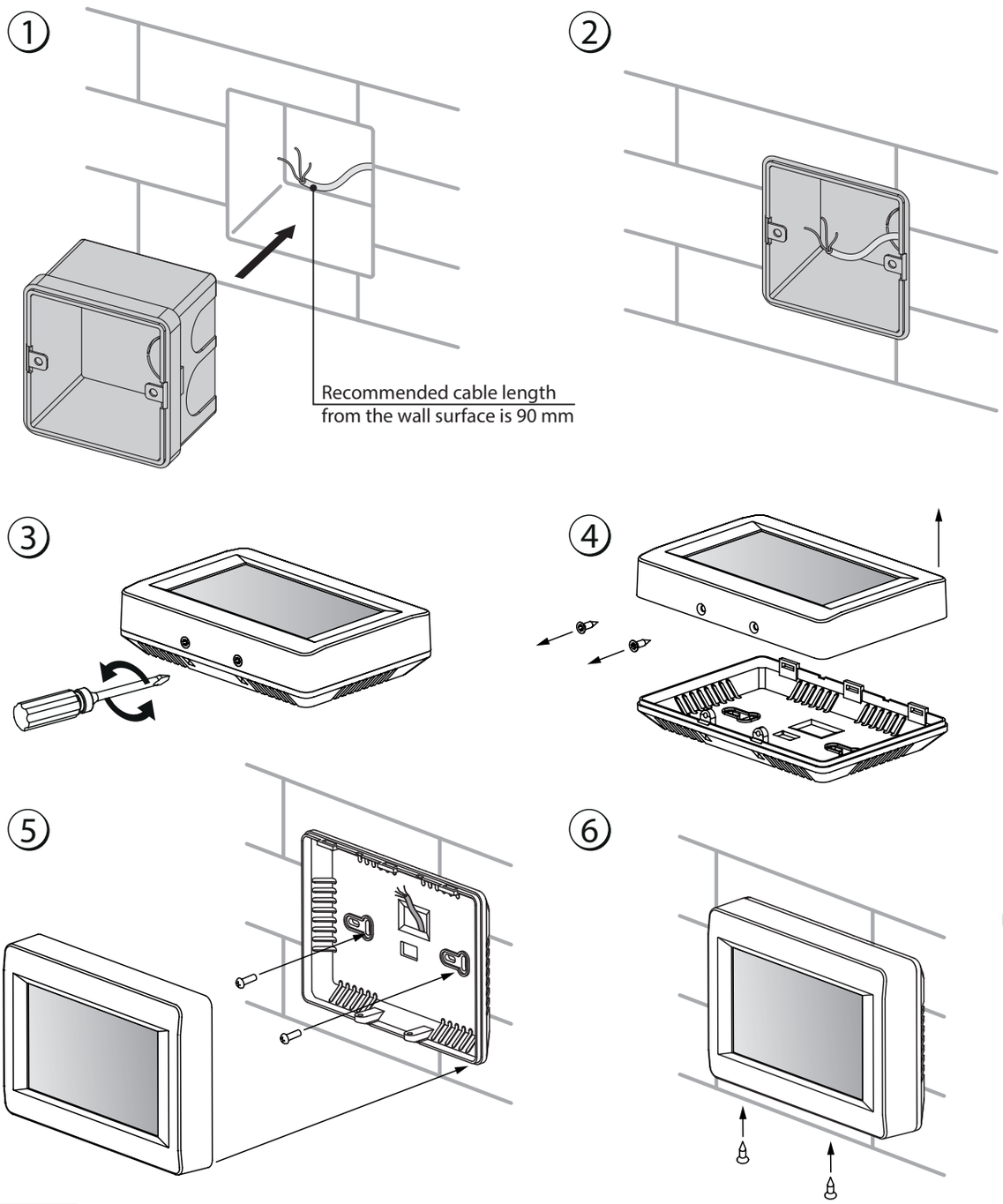
SAFETY PRECAUTIONS DURING INSTALLATION AND OPERATION

	The control panel must be disconnected from power supply prior to any installation or repair operation.		The control panel must not be operated outside the temperature range stated in the user's manual or in aggressive or explosive environments.
	Do not position any heating devices or other equipment in close proximity to the control panel power cable.		Do not use damaged equipment or conductors to connect the panel to the power supply.
	While installing the control panel follow the safety regulations specific to the use of electric tools.		Unpack the control panel with care.
	Do not change the power cable length at your own discretion. Do not bend the power cable. Avoid damaging the power cable.		Use the control panel only as originally intended.
	Do not touch the control panel with wet hands. Do not carry out the control panel maintenance with wet hands.		Avoid water penetration onto the electric parts of the panel.
	Do not let children operate the control panel.		The control panel must be disconnected from power supply prior to maintenance operations.
	In case of unusual sounds, smoke, disconnect the control panel from power supply and contact the service centre.		Keep the power cable intact while operating the control panel. Do not put any foreign objects on top of the power cable.

MAIN TECHNICAL DATA

PARAMETER	VALUE
Ambient temperature [°C]	from +5 to +40
Relative humidity [%]	from 5 to 80 (no condensation)
Cable cross section [mm^2]	from 0.25 to 0.35
Material	plastic
Dimensions (WxHxD) [mm]	130x86x30
Cable length [m]	up to 15
Ingress protection rating	IP20

CONTROL PANEL MOUNTING

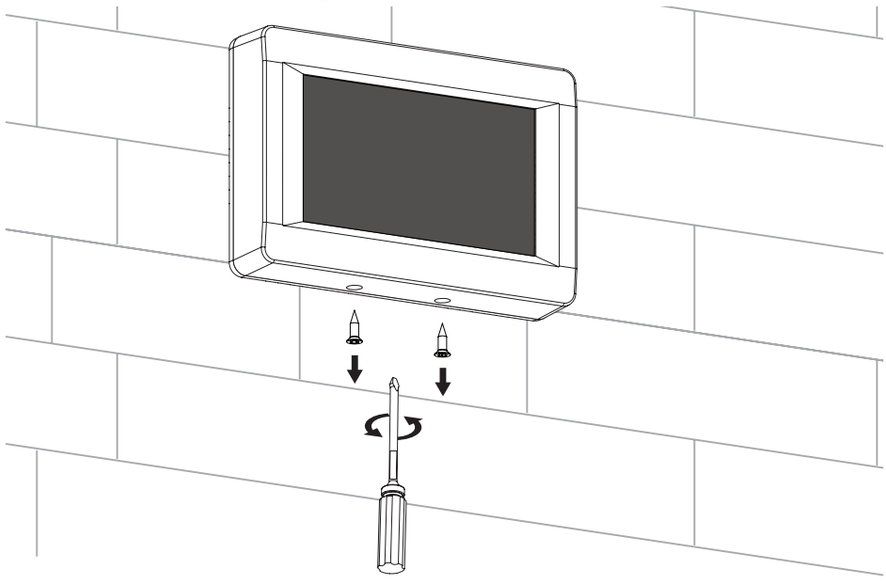


BATTERY REPLACEMENT

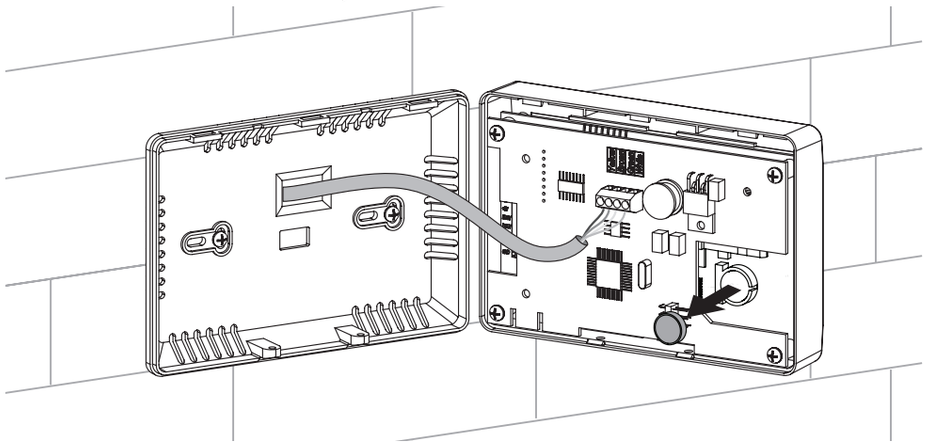
The battery keeps the internal clock running while the unit is disconnected from power supply. If the unit is disconnected from power supply and the battery is low, the clock stops and the day and time settings are reset. This leads to incorrect date and time indication when the unit is on and, as a result, to incorrect scheduled operation of the unit. In this case, the battery should be replaced. To replace the battery use a new battery only.

1 Disconnect the ventilation unit from the power supply.

2 Remove two screws in the bottom part of the casing.



3 Pull the top part of the casing aside to allow access to the upper circuit board.
Replace the battery.
The control panel uses a CR1220 lithium battery.



4 Assemble the control panel in the reverse order.
If the terminal block wires on the upper circuit board were unplugged make sure to re-connect them correctly. Failure to re-connect the wires property may knock the equipment out of service.

5 Connect the panel to the power supply and set the current date and time.

CABLE ROUTING

DO NOT LAY THE POWER CABLE OF THE NEARBY VENTILATION UNITS CLOSE TO THE CONTROL PANEL SIGNAL CABLE!
WHILE ROUTING THE CONTROL PANEL CABLE DO NOT COIL THE EXTRA LENGTH.

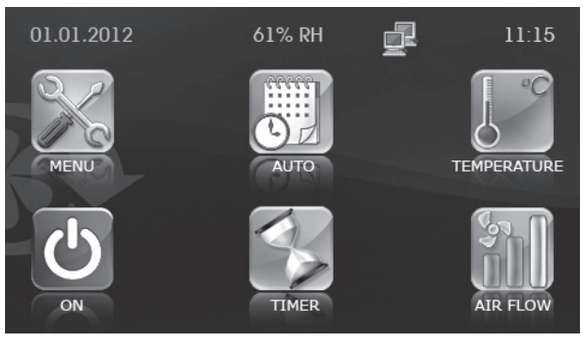
The recommended cross-sections of the cable connecting the control panel to the unit are:		
Cable cross section	≥ 0,12 mm²	≥ 0,25 mm²
Cable length	Up to 15 m	Up to 50 m

The minimum recommended control panel supply voltage is 11 V.

Control Panel

Ventilation units are controlled via a sensor control panel.

1. Main Menu.



The Main menu contains the date, current humidity, time, temperature and set air flow.

This menu also works as a hub for accessing the main control panel functions and menus.

MENU - access to the User menu, see clause 5.

AUTO - scheduled operation activation / deactivation.

TEMPERATURE - display of the current indoor temperature.

After pressing this button the Temperature Setting menu is opened, see clause 4.

ON/OFF - turning the air handling unit on / off.

TIMER - turning the timer on / off.

AIR FLOW - current fan speed display.

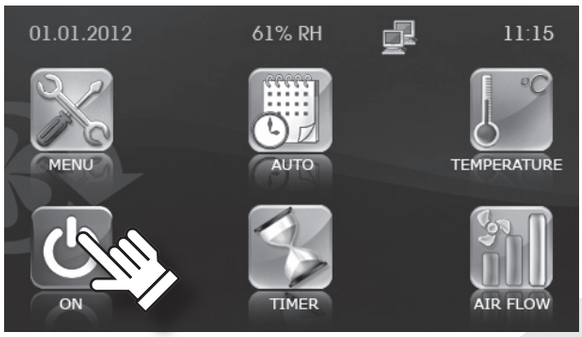
The Fan Speed Setting menu is accessible through this button, see clause 3.

The network connection status indicator is displayed:

 — the unit is connected to network.

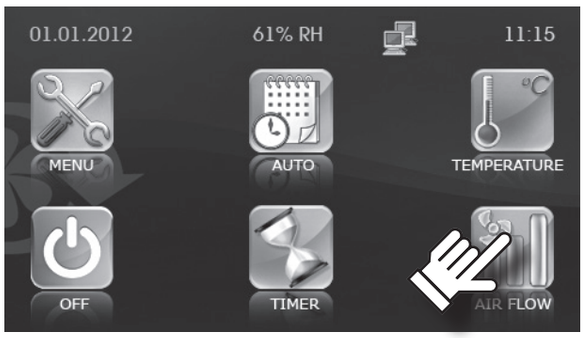
 — the unit is disconnected from network.

2. Unit Activation and Deactivation.



To turn the unit on/off press the **ON**  / **OFF**  buttons. Upon deactivation of the ventilation unit the icon changes from green to red.

3. Fan Speed Changeover.



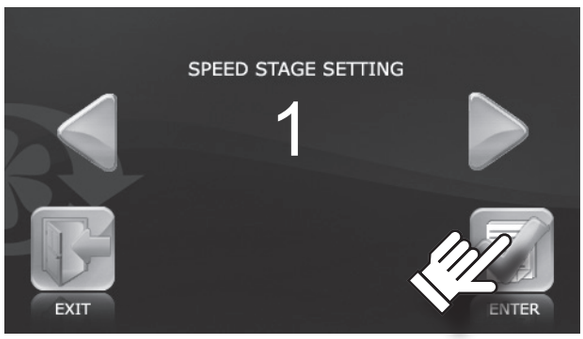
Fan speed setting:

- Press the **AIR FLOW** button .

The unit has four speed stages:

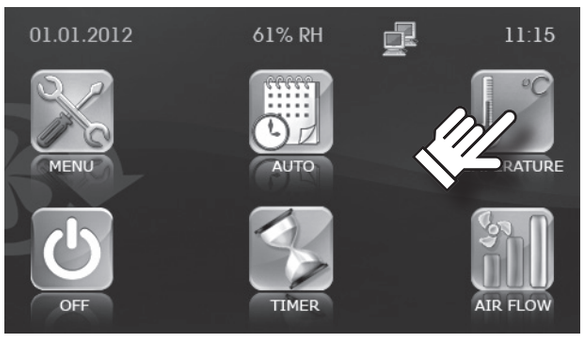
- Speed 1;
- Speed 2;
- Speed 3;
- Humidity Control mode. The fan speed is regulated depending on the humidity setting. The humidity level is set via the Engineering menu, see clause 14.

- If the **AUTO** or **TIMER** mode is activated the current air flow value is displayed in real time operation no matter of the air flow value set by means of the **AIR FLOW** button.



- Set the desired speed using the or buttons.
- Then press **ENTER** .
- To return to the Main menu without saving changes press **EXIT** .

4. Temperature Setting.

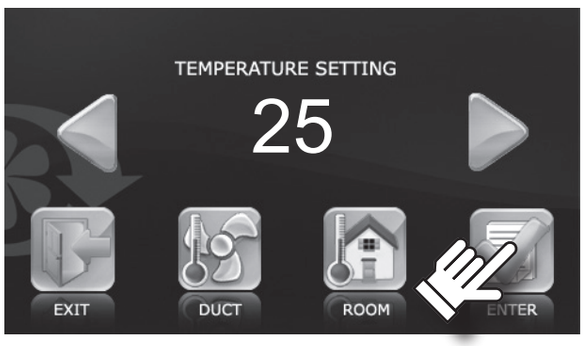


Temperature setting:

- Press the **TEMPERATURE** button .
- Select the set temperature type:

- DUCT (temperature in the air duct);

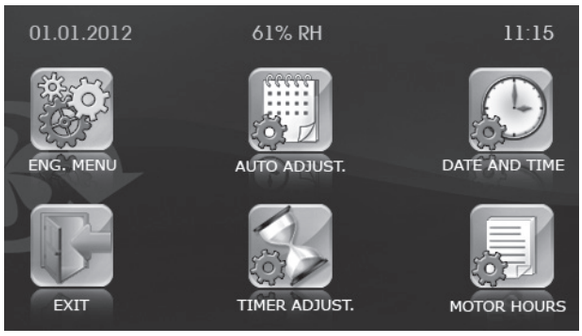
- ROOM (temperature in the room).



- Set the desired temperature using the or buttons.
- Then press **ENTER** .
- To return to the Main menu without saving changes press **EXIT** .

5. User Menu.

To enter the User menu press **MENU** in the control panel Main menu.



The User menu contains basic menu items and functions for parameters setting:

ENG. MENU - access to the Engineering menu. The menu is password-protected.

AUTO ADJUST. - scheduled operation setting.

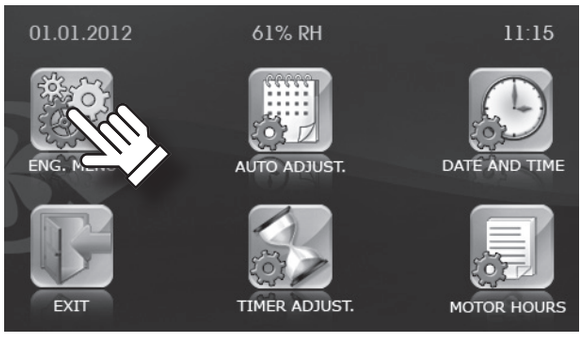
DATE AND TIME - date and time setting.

TIMER ADJUST. - setting time and speed operation on timer basis.

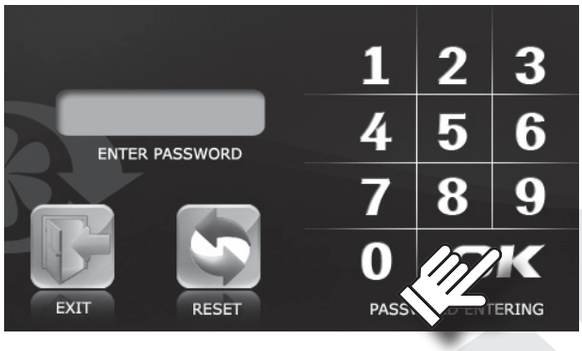
MOTOR HOURS - setting filter replacement periodicity.

EXIT - return to the Main menu.

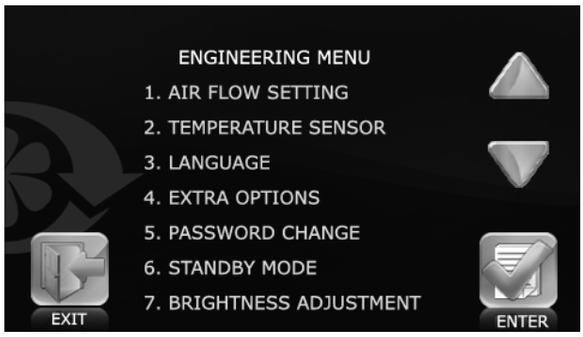
6. Engineering Menu.

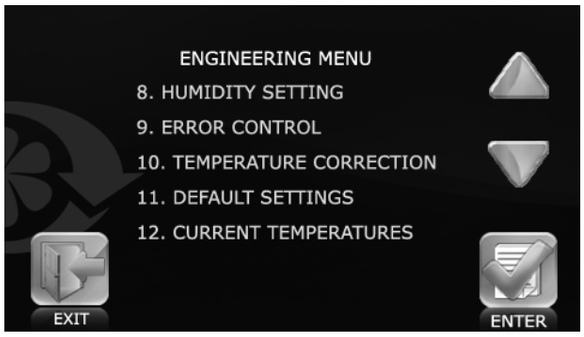


To enter the Engineering menu press **ENG. MENU** in the User menu.



- To access the Engineering menu enter the password. The default setting is 1111.
- Press **OK**.
- To change the password use the **RESET** button. Press **RESET** to clear the password field.
- To return to the User menu press **EXIT**.
- If you forgot the user-defined password, see clause 11 Password Change, press and hold **RESET** until you hear a long sound signal (20 clicks, approximately 20 seconds). The default password 1111 is set.





For navigating in the engineering menu use the following buttons:

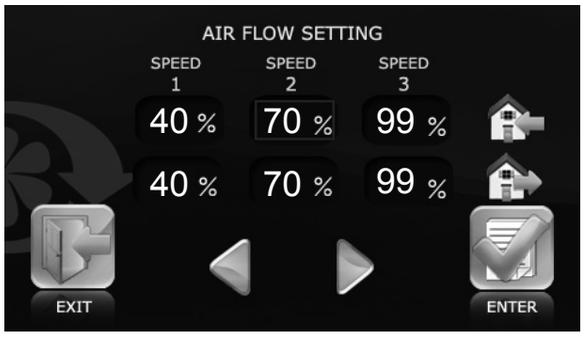

- moving upwards in the list.

- moving downwards in the list.


- select the value from the parameter list.

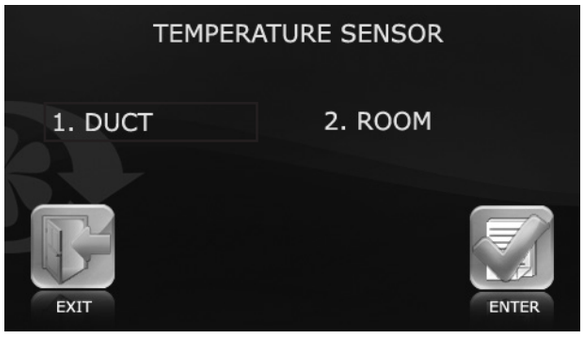

- return to the User menu.

7. Air Flow Setting.



- Select the **AIR FLOW SETTING** item from the Engineering menu and press **ENTER**  .
- Select the edited speed value (the selected value is highlighted with a rectangle).
- Use  or  buttons to set the air flow value for each fan speed stage.
- The air flow is set as a percentage of the maximum performance of each fan.
- To return to the Engineering menu without saving changes press **EXIT**  .

8. Temperature Sensor.



- To select the heating control sensor from the Engineering menu select the **TEMPERATURE SENSOR** submenu and press **ENTER**  .
- Select a desired temperature sensor type.
- Press **ENTER**  to confirm.
- To return to the Engineering menu without saving changes press **EXIT**  .

9. Language Selection.

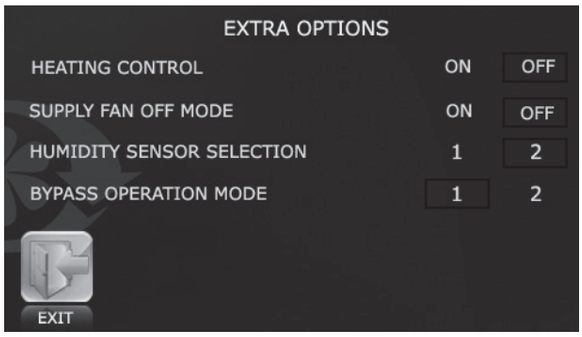
■ To select the control panel interface language select the **LANGUAGE** submenu from the Engineering menu and press **ENTER** .

■ Select the desired language from the list.

■ Press **ENTER** to confirm.

■ To return to the Engineering menu without saving changes press **EXIT** .

10. Extra Options.



■ Select the **EXTRA OPTIONS** submenu from the Engineering menu and press **ENTER** .

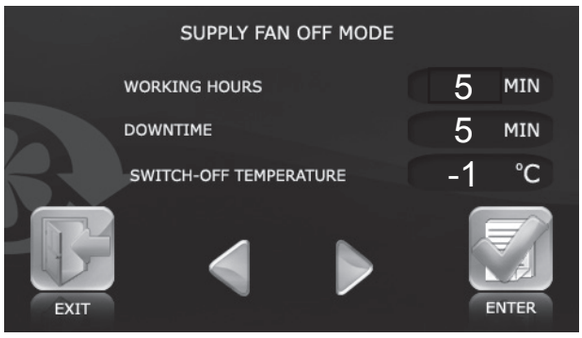
■ The **SUPPLY FAN OFF** mode helps to prevent heat exchanger freezing and requires disabling of the **HEATING CONTROL** parameter.

■ To activate the heat exchanger freezing protection function by means of the supply fan deactivation set the **HEATING CONTROL** parameter value to **OFF**. To proceed to the function setup set the **SUPPLY FAN OFF MODE** parameter to **ON**.

■ To select a humidity sensor type set 1 for the duct sensor or 2 for the room sensor in the **HUMIDITY SENSOR SELECTION** menu item.

For selecting the bypass operation mode set 1 in the **BYPASS OPERATION MODE** to select the regular operation mode, which prevents heat exchanger freezing, or 2 to enable bypass opening in the ventilation mode.

■ To save the changes and return to the Engineering menu press **EXIT** .



■ If the **SUPPLY FAN OFF MODE** parameter is set to **ON** the control panel switches to the **SUPPLY FAN OFF MODE** setting.

■ Select an item by touching the respective field: **WORKING HOURS**, **DOWNTIME** and **SWITCH-OFF TEMPERATURE** (the temperature is set according to the outdoor temperature sensor readings defined in the range from 0 °C to -30 °C).

■ Then use the and buttons to set the desired value.

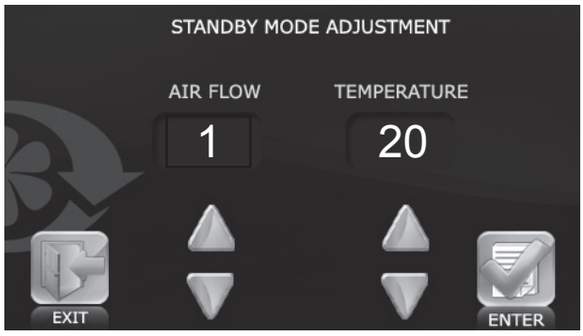
■ Press **ENTER** to confirm the parameters.

■ To return to Engineering menu without saving changes press **EXIT** .

11. Password Change.

- Select the **PASSWORD CHANGE** submenu from the Engineering menu and press **ENTER**.
- Then enter the new password for accessing the Engineering menu.
- Press **OK**.
- To re-enter the password press **RESET**. This operation clears the **ENTER NEW PASSWORD** field.
- To return to the Engineering menu press **EXIT**.

12. Standby Mode Settings.

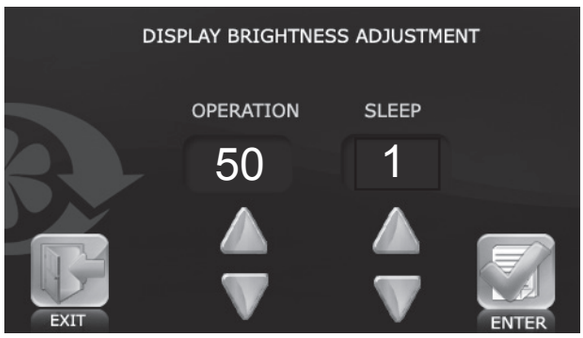


- Select the STANDBY MODE submenu from the Engineering menu and press **ENTER**.
- Then use the or buttons to select 0 mode (unit shutdown) or 1 mode (Standby mode activation).

While in the Standby mode the ventilation unit runs at the Speed 1 at the pre-set temperature.

- Press **ENTER** to confirm.
- To return to the Engineering menu without saving changes press **EXIT**.

13. Display Brightness Adjustment.



- Select the **BRIGHTNESS ADJUSTMENT** submenu from the Engineering menu and press **ENTER**.
- Then use the or buttons to set the brightness for the Operation and Sleep modes. The panel switches to the Sleep mode 30 seconds after the last screen interaction.
- Press **ENTER** to confirm.
- To return to the Engineering menu without saving changes press **EXIT**.

14. Humidity Setting.

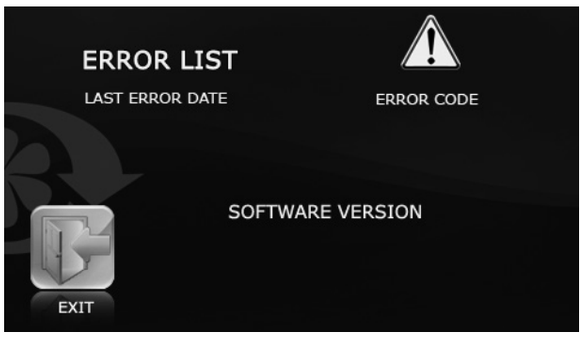
- Select the humidity sensor type used to control the humidity:

- **DUCT** (the duct sensor is optional and is not included into the basic delivery set);
- **ROOM** sensor.

- Then use the or buttons to set the desired humidity level.
- Press ENTER to confirm.
- To return to the Engineering menu without saving changes press **EXIT**.

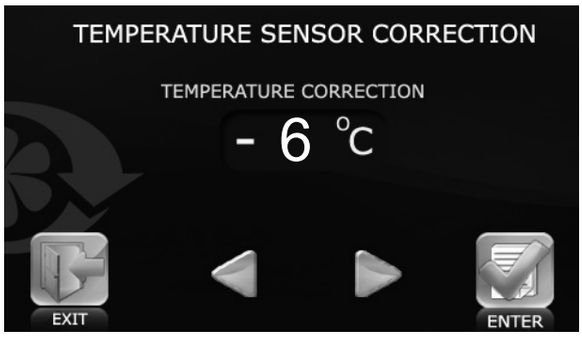
In the Humidity Control mode the minimum air flow is equal to the air flow at the low speed.

15. Error Control.



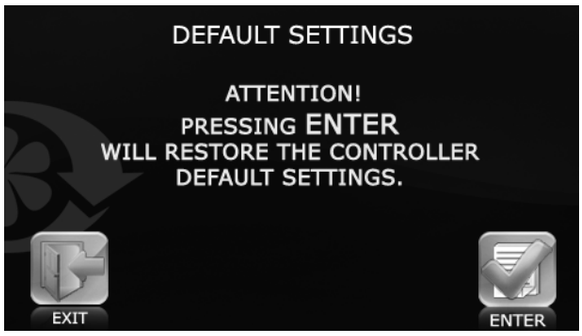
- To receive information regarding the last error select **ERROR CONTROL** submenu from the Engineering menu and press **ENTER**.
- The display shows the error date and code.
- To return to the Engineering menu press **EXIT**.
- Errors description is stated in the respective table below.

16. Control Panel Temperature Sensor Correction.



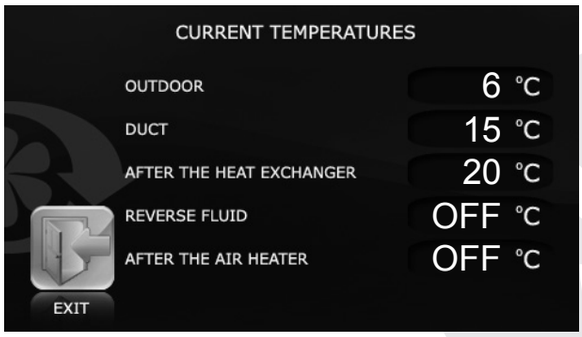
- To correct the panel temperature sensor indications select **TEMPERATURE CORRECTION** submenu from the Engineering menu and press **ENTER**.
- Then use the or buttons to set the temperature correction for the room temperature sensor installed in the control panel casing.
- The default factory setting for the temperature sensor correction is -6°C.
- To return to the Engineering menu without saving changes press **EXIT**.

17. Default Settings.



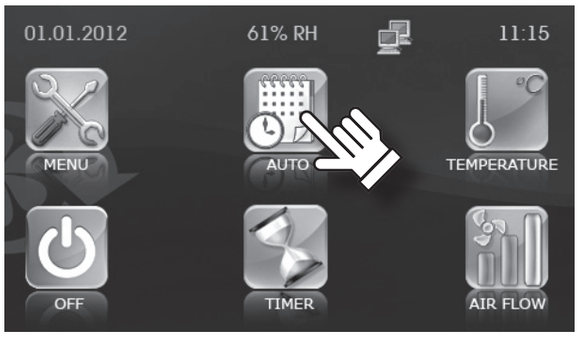
- To reset the controller settings to the factory defaults select **DEFAULT SETTINGS** submenu from the Engineering menu and press **ENTER**.
- To confirm the reset press **ENTER**.
- To return to the Engineering menu without saving changes press **EXIT**.
- The default settings are given in the table below.

18. Current Temperature Review.



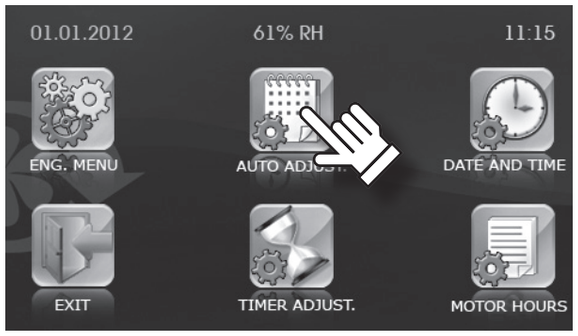
- To review the current temperatures select the **CURRENT TEMPERATURES** submenu from the Engineering menu and press **ENTER**.
- The display shows all the current temperature information.
- If any temperature sensor of the ventilation unit is missing its configuration value is displayed as OFF.
- To return to the Engineering menu press **EXIT**.

19. AUTO MODE (Scheduled Operation).



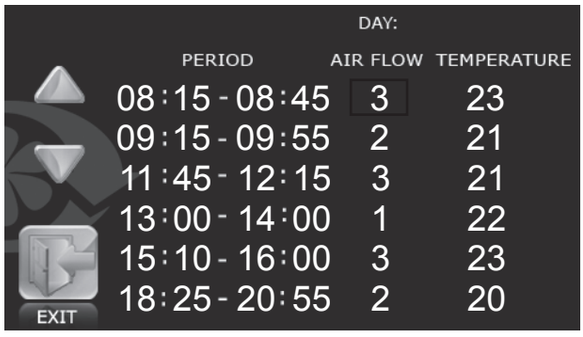
The **AUTO** mode enables scheduled operation of the ventilation unit. The unit runs at the pre-set speed and temperature during the specified time periods. The unit is in the Standby mode between the operating periods.

■ To activate the AUTO mode press **AUTO** in the control panel Main menu. Activation of the AUTO mode is confirmed with a tick .



■ To set up the AUTO mode press the button to enter the User menu, see clause 5, and press AUTO ADJUST. .

■ While the **TIMER** is active the AUTO mode is disabled due to a lower priority.



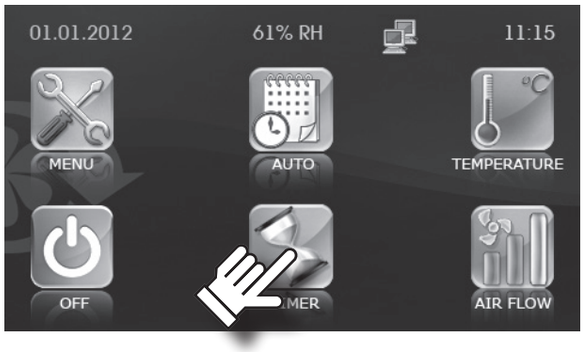
■ Select the day to enable the AUTO mode. Upon entering the menu the value is set to the current day. To change the day press the DAY field.

■ Then use the or buttons to set the time, air flow and temperature for the selected day by pressing the respective parameter field.

■ Depending on the Standby mode settings, the unit remains in the Standby mode or turns off between the operating periods.

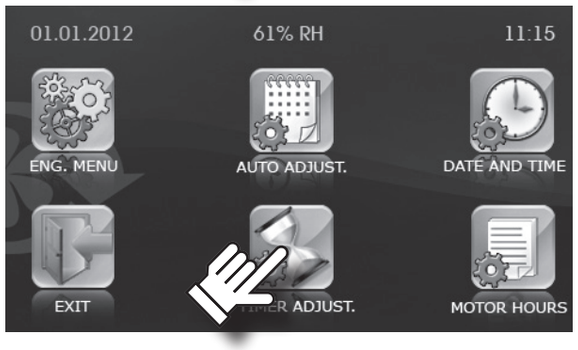
■ To return to the Engineering menu and save changes automatically press **EXIT** .

20. Timer.



■ To activate the timer press **TIMER** in the control panel Main menu.

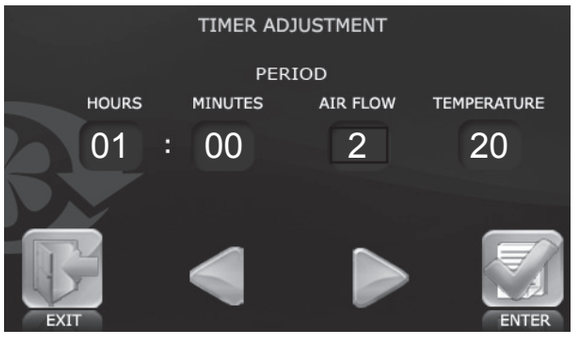
■ To set up the timer press the button to enter the User menu, see clause 5, and press TIMER ADJUST. .



■ Activation of the **TIMER** function is confirmed with a tick .

■ If the **AUTO** and **TIMER** functions are activated synchronously, TIMER function will operate as it supersedes the **AUTO** function.

■ The timer cannot be activated once the Humidity Control mode is on.

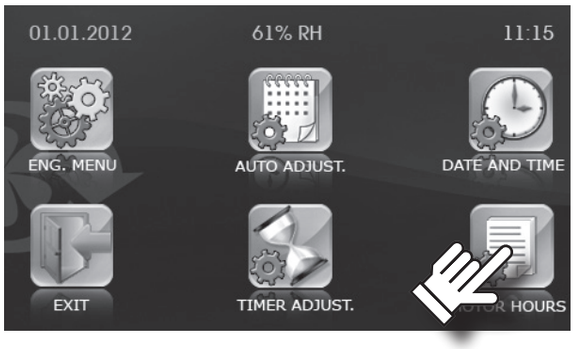


■ Use the or buttons to set the time, air flow and air temperature values.

■ Press **ENTER** to confirm the set parameters.

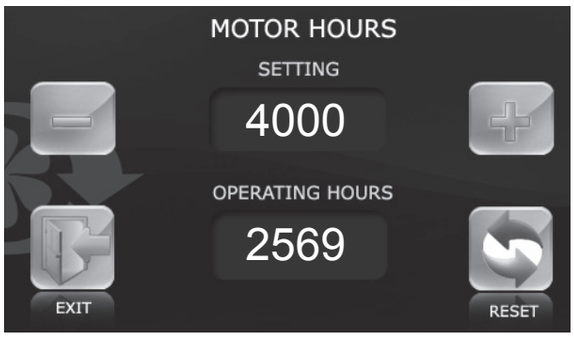
■ To return to the Engineering menu without saving changes press **EXIT**.

21. Motor Hours.



The **MOTOR HOURS** function enables the user to set up filter cleaning or replacement periodicity. Upon expiration of the pre-set time the panel displays a filter cleaning or replacement indicator. The indicator is displayed every 24 hours. Press the **RESET** button to reset the motor hours.

■ To set up the MOTOR HOURS function enter the User menu by pressing the button, see clause 5, and press **MOTOR HOURS**.



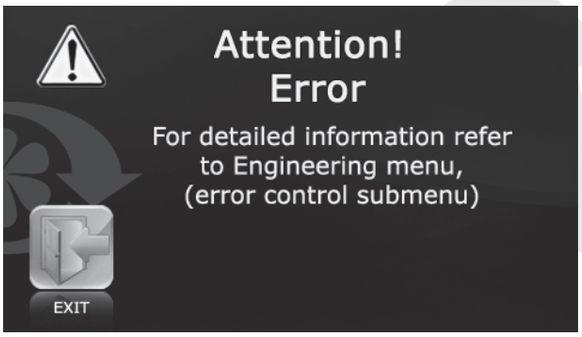
■ Then use the or buttons to set the filter replacement interval.

■ The **OPERATING HOURS** window shows the time elapsed from the filter installation.

■ Press **RESET** after replacement of the filter.

■ To save the changes and return to the Engineering menu press **EXIT**.

22. Errors.



■ The control panel displays the following message in case of any malfunctions in the ventilation unit operation.

■ To enter the **ERROR LIST** press **EXIT**.

■ The ERROR LIST can also be accessed from the Engineering menu.

■ The error code details are stated in the table below.

■ The error message appears every 30 seconds until the system emergency cause has been troubleshooted.

To reset the error alert restart the unit once the malfunction cause has been eliminated.

ERROR CODE DESCRIPTION

ERROR CODE	HEATER TYPE	
	ELECTRIC	WATER
TE1	Outdoor temperature sensor malfunction.	
TE2	Malfunction of the temperature sensor for heat exchanger freezing protection.	
TE3		Return heat medium temperature sensor malfunction.
TE4		Water heater freeze protection sensor malfunction.
TE5	Duct temperature sensor malfunction.	
MIN	Supply fan malfunction.	
MEX	Extract fan malfunction.	
ERP	Control panel communication error.	
DI1	TK 60 overheating sensor actuation.	
DI2	Fire alarm sensor actuation.	
DI3	TK 90 overheating sensor actuation.	
D15		Water pressure sensor malfunction.

FACTORY SETTINGS

PARAMETER		DEFAULT VALUE	MEASUREMENT UNIT
Air Flow		**1**	**-**
Temperature	Duct	25	°C
	Room	20	
Air Flow Setting	Air supply	Speed 1 40%, Speed 2 70%, Speed 3 99%	%
	Air extract	Speed 1 40%, Speed 2 70%, Speed 3 99%	
Temperature sensor		Duct	-
Language		English	-
Extra options	Heating control	Off	On / Off
	Supply Fan Off mode	Off	On / Off
	Humidity sensor selection	2	-
	Bypass Operation mode	1	-
Supply Fan Off mode	Working Hours	20	min
	Downtime	5	min
	Switch-off temperature	+3	°C
Standby mode setting	Air flow	1	-
	Temperature	20	°C
Display brightness adjustment	Operation	50	-
	Sleep	1	-
Humidity setting	Duct	50	%
	Room	50	%
Temperature sensor correction		-6	°C
Timer settings	Hours	01	Hour
	Minutes	00	Minute
	Air flow	1	-
	Temperature	20	°C
Motor hours	Setting	3000	Hour