SOFTWARE INSTRUCTIONS

CTS602I HMI BY NILAN

VPM MTZ On/Off kompressor (English)

Version 3.00 - 04.10.2019

NILAN®
OUTSTANDING INDOOR CLIMATE

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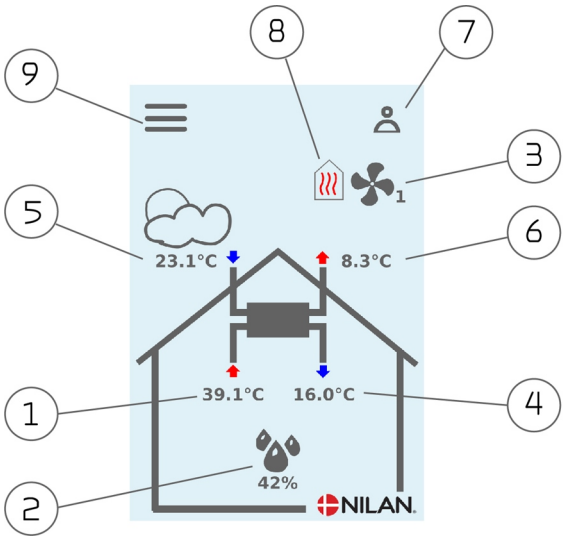
Software

Functions on control panel

Main screen elements

The main screen of the HMI panel contains the settings options and the information that an operator mostly uses.



1. Shows the current room temperature in the house, measured via the extract air.
2. Shows the current air humidity. If a CO2 meter has been installed, it will be shown next to air humidity.
3. Shows the current fan speed level.
4. Shows the current supply air temperature
5. Shows the current outdoor temperature measured via the outdoor air intake
6. Shows the current discharge air temperature
7. Shows the menu icons listed below
8. Shows the mode icons listed below
9. Access to the settings menu which contains more settings options

Menu icons

Stop icon
Indicates that the unit has stopped

User selection icon
Indicates that the user selection function is active

Week program icon
Indicates that the week program function is active

Alarm icon
Is displayed during alarms or warnings

Mode icons

Compressor icon
Indicates that the compressor is active

Heating icon
Indicates that the unit is heating up the supply air via the compressor or the after-heating element

Cooling icon
Indicates that the unit is cooling the supply air via the compressor or the bypass

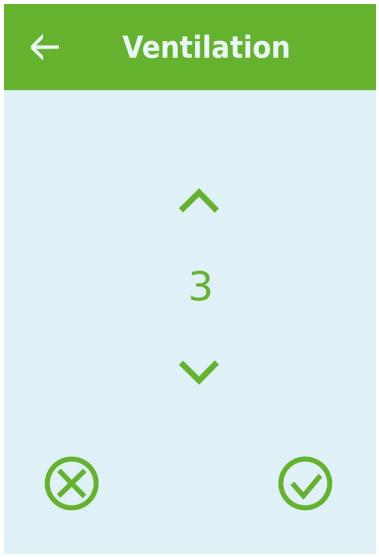
De-icing ikon
Appears when the heat pump defrosts

Settings options on the main screen

The settings options which the user needs in daily life can all be controlled from the main screen of the panel.

If you select the option of current room temperature, the desired room temperature will be displayed.

The desired room temperature can be adjusted by pressing the up-or-down arrows followed by the cancel icon (bottom left) or the accept icon (bottom right).

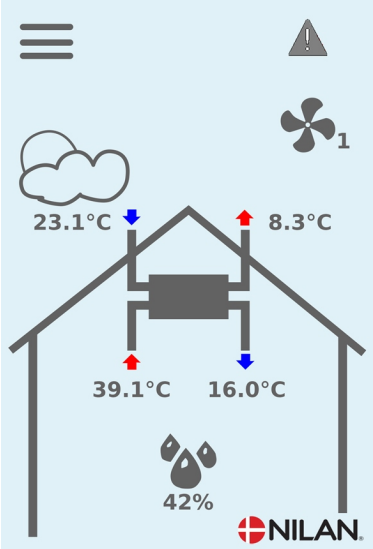


If you select the option of current fan speed level, the desired fan speed level will be displayed.

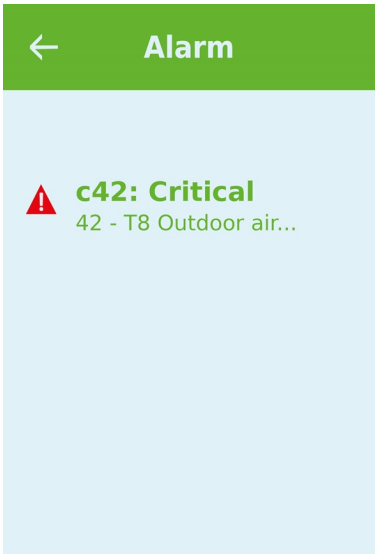
The desired fan speed level can be adjusted by pressing the up-or-down arrows followed by the cancel icon (bottom left) or the accept icon (bottom right).

Warnings and alarms

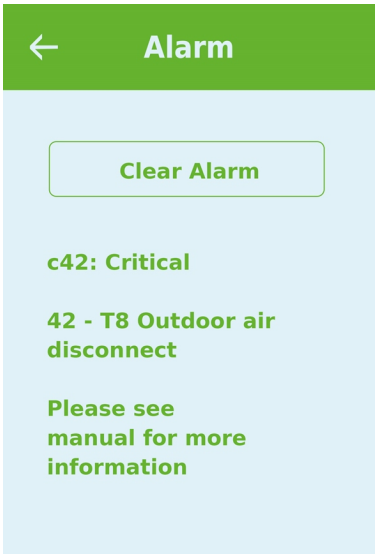
Should an error occur in the operation of the unit, a warning or an alarm will be displayed. A warning will appear in the top righthand corner in the menu bar.



If you press the symbol, a description of the warning or the alarm will be displayed.



The warning or the alarm can be reset by pressing "Clear Alarm".

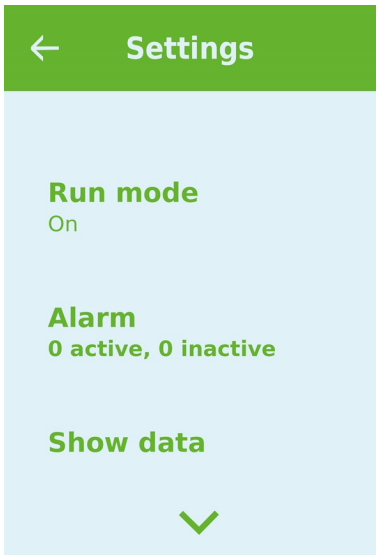


A warning indicates that something requires attention, for instance that filters need changing.
The unit operates normally.

An alarm indicates a serious fault with the unit that is likely to require investigation by an expert.
The unit has stopped.

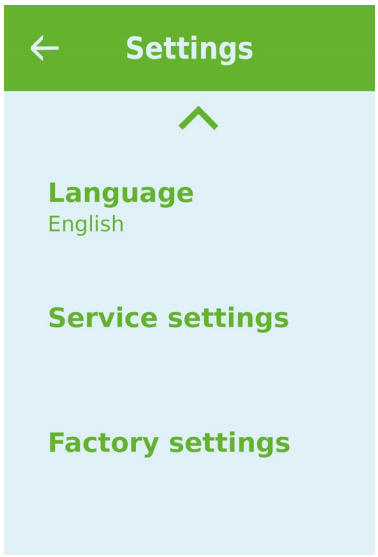
Settings menu overview

The settings menu is constructed to make it easy to navigate through.



Installer rights

Service and factory settings are displayed in the settings menu.



A password is required to access the Service Menu. You can set the password by using the up-or-down arrows followed by the confirm icon (bottom right).

The service settings require a password because certain knowledge is necessary in order to change these settings. An incorrect setting may result in the unit not working properly.

Start-up settings

Language

The unit is factory-set to Danish language. You can change the texts to other languages.

↳ Danish	Description:	Select the desired language on the panel.

Date/Time

It is important to set date and time correctly. It makes it easier to localise errors indicated in an error report. When logging data, it is important to be able to follow the history. The time is shown under "Date / Time" in the display.

↳ Year	Description:	Select "Year" in the panel and then select the correct year.
↳ Month	Description:	Select "Month" in the panel and then select the correct month.
↳ Day	Description:	Select "Day" in the panel and then select the correct day.
↳ Hour	Description:	Select "Hour" in the panel and then select the correct hour.
↳ Minute	Description:	Select "Minute" in the panel and then select the correct amount of minutes.

Ventilation settings

Turn on the unit

When the unit is powered, light will appear in the control panel, but all functions are off. This is to prevent errors.

The different functions of the unit can be activated in "Settings" under "Operation".

If the unit is off, an icon appears on the main screen.

ATTENTION
Before touching the electrical installations, the power supply must be switched off.

ATTENTION
It is important that the ventilation section is not turned off for prolonged periods, as this could cause condensation problems in the duct system.

← Operation

↳ Operation	Settings: Standard setting: Description:	Off / On Off The unit has been turned off at the factory in order to avoid errors once powered. The unit must be started by the installer. The installer is also able to turn off the entire unit, for instance during a service check.

Operating function

You can program the unit to operate in "Auto", "Heating" or "Cooling" mode.

ATTENTION
The "Heating" and "Cooling" functions overrule the week program. If a week program has been set up, the mode will automatically change to "Auto" at the next change in the week program.

← Operating function

↳ Auto	Settings: Standard setting: Description:	Auto / Cooling / Heating Auto Auto: The unit operates in accordance with the selected values Cooling: The unit operates in accordance with the selected values, but cooling is possible in winter mode if the preconditions for cooling are present. Heating: The unit runs for set values, but active cooling cannot be activated even if the conditions are present.

Alarm

You can read warnings and alarms in the "Alarm" menu. It is likewise possible to reset warnings and alarms in this menu.

When a warning or an alarm has been triggered, an icon appears on the main screen

← Alarm

↳ Alarm number and name	Description:	When selecting this, a list will appear showing the alarm ID number, information about the type of alarm, and whether it is critical or not. (See the alarm list for more information) You can approve the alarm by selecting "Clear Alarm"

ATTENTION
When an alarm is active, it cannot be reset in the panel. When the alarm has been resolved, it will figure as inactive and it can be reset by selecting "Clear Alarm".

Show data

It is possible to read off current data for the unit.

← Show data

↳ Operating state	Description:	Shows the operating setting in which the unit is running.
↳ T1 Outdoor air	Description:	Shows the outdoor temperature before reaching the pre-heating element.
↳ T2 Supply air	Description:	Shows the supply air temperature. If an after-heating element has been installed, T7 will be shown instead.
↳ T5 Condenser	Description:	Shows the condenser temperature.
↳ T6 Evaporator	Description:	Shows the evaporator temperature.
↳ T7 Supply air	Description:	Shows the supply air temperature if an after-heating element has been installed. Otherwise T2 will be shown.
↳ T10 Extract air/Room	Description:	Shows the current room temperature as measured in the extract air.
↳ Air humidity	Description:	Shows the current air humidity in the dwelling.
↳ CO2	Description:	Shows the current CO_2 level in the dwelling (only if installed).
↳ Supply air fan	Description:	Shows the level at which the supply air fan is operating.
↳ Extract air fan	Description:	Shows the level at which the extract air fan is operating.
↳ Unit information	Description:	Press "Unit information" for more information.
↳ Unit type	Description:	Shows the name of the product the software has been set to work with.
↳ Software version	Description:	Shows the installed software version.
↳ Panel software	Description:	Shows installed software version on the panel.

Date/Time

It is important to set date and time correctly. It makes it easier to localise errors indicated in an error report. When logging data, it is important to be able to follow the history. The time is shown under "Date / Time" in the display.

← Date / Time

↳ Year	Description:	Select "Year" in the panel and then select the correct year.
↳ Month	Description:	Select "Month" in the panel and then select the correct month.
↳ Day	Description:	Select "Day" in the panel and then select the correct day.
↳ Hour	Description:	Select "Hour" in the panel and then select the correct hour.
↳ Minute	Description:	Select "Minute" in the panel and then select the correct amount of minutes.

Week program

You can program the unit to run in accordance with specific settings at fixed times during the week via a week program.

On the main screen an icon will be displayed when the week program is active

← Week program

↳ Select program	Description:	You can select from the Programs 1, 2, 3 or off.
↳ Edit program	Description:	The selected week program is now active and can be edited.
↳ Monday	Description:	You can select either Monday, Tuesday, Wednesday, Thursday, Friday, Saturday or Sunday.
↳ Function 1	Description:	Under each function, you can set time, temperature and fan speed level.
↳ Start time	Settings: Standard setting: Description:	Hours and minutes 6:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 3 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Function 2		Under each function, you can set time, temperature and fan speed level.

↳ Start time	Settings: Standard setting: Description:	Hours and minutes 8:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 1 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Function 3	Description:	Under each function, you can set time, temperature and fan speed level.
↳ Start time	Settings: Standard setting: Description:	Hours and minutes 15:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 3 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Function 4	Description:	Under each function, you can set time, temperature and fan speed level.
↳ Start time	Settings: Standard setting: Description:	Hours and minutes 22:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 1 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Functions 5 and 6	Settings: Standard setting: Description:	Under each function, you can set time, temperature and fan speed level. Off The program will run until the next change in the week program.
↳ Reset program	Description:	You can reset the program by selecting the approve icon.

After-heating

This menu is only displayed if an after-heating element has been installed.

ATTENTION
An after-heating element is not standard, but it can be purchased as an accessory.

If you wish to control the supply air temperature, an after-heating element must be installed. An after-heating element allows you to control the supply air temperature, regardless of the outdoor temperature.

An external electrical or water after-heating element can be installed in the supply air duct.

← After-heating

↳ Activate	Settings: Standard setting: Description:	Off / On Off You can turn the after-heating on or off here.

Cooling

The unit can cool the dwelling via active cooling by the heat pump. For the unit to switch to cooling mode it must operate in summer mode, or you must activate cooling in "Operating function".

Active cooling:

If the room temperature (measured in the extract air) is higher than the desired room temperature + the cooling setpoint, the compressor will start up and begin active cooling of the supply air. The compressor will stop when the room temperature falls below the cooling setpoint -1°C.

← Cooling

↳ Cooling setpoint	Settings: Standard setting: Description:	Off / +1 / +2 / +3 / +4 / +5 / +7 / +10 °C Off Off: Active cooling is deactivated. Setpoint + X °C: Indicates when active cooling is to start. The setpoint is the desired room temperature as selected on the front of the panel.
↳ Ventilation in connection with cooling	Settings: Standard setting: Description:	Off / 2 / 3 / 4 Off Off: The fan speed level does not change when the unit switches to cooling mode. Level 2-4: Select the fan speed level you want the unit to switch to when in cooling mode. This happens already at bypass cooling.

Night cooling

The menu **Night cooling** allows to select passive cooling at night provided the outdoor temperature the day before has been above the set day temperature limit for at least one hour.

I **Night cooling** the period suspend the compressor cooling operation and the room setpoint is lowered to the temperature set in the night cooling menu. The set limit for minimum supply temperature is not observed during night cooling, but the unit must run compressor heating if the room temperature falls below the night cooling set point.

No special consideration is given to whether the room temperature is above or below the outside temperature, ie. whether cooling effect can actually be achieved with the outdoor air. When the night-cooling period is over, the system again runs as usual with compressor heat and cooling after normal set point.

← Night cooling

↳ Day temperature	Settings: Standard setting: Description:	20.0 ↔ 40.0 °C 25.0 °C Here the day temperature is set, which must be a prerequisite for night cooling.
↳ Room temperature	Settings: Standard setting: Description:	10.0 ↔ 30.0 °C 18.0 °C Here you set the room temperature to which you want to cool.

Air humidity

ATTENTION
Humidity control is not standard but can be purchased as an accessory.

The primary purpose of ventilation is to extract humidity from the building so it does not damage the building, and to achieve a good indoor climate. During long periods with sub-zero temperatures, air humidity in the house may fall to a level that is critical for the building and for the indoor climate.

Humidity control can maintain good relative air humidity. When the average air humidity in the house falls below a set level (default set at 30%), ventilation may be reduced. It will typically only be for a short period of time. This will help avoid further reduction of the air humidity in the building.

The humidity control also has a function that allows the ventilation to increase if the humidity becomes high, for example. is connected to the bathroom.

The humidity control system follows the average air humidity level measured over the previous 24 hours. In this way the system automatically adapts to summer and winter conditions.

← Air humidity

↳ Vent.low humidity	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 1 At low humidity, the unit changes to the set fan speed level.
↳ Low humidity level	Settings: Standard setting: Description:	15 ↔ 45 % 30 % The control system calculates an average air humidity level measured over the previous 24 hours. If the average air humidity in the extract air falls below this level, the "Low humidity" function will be activated. Note! The function is only active in winter mode.
↳ Vent.high humidity	Settings: Standard setting: Description:	Level 2 / Level 3 / Level 4 / Off Level 3 At high humidity levels, for instance when having a bath, the unit changes to the set fan speed level.
↳ Max time high humidity	Settings: Standard setting: Description:	1 ↔ 180 minutes / Off 60 minutes The function "High humidity" stops when actual humidity falls below 3% above the average air humidity. A time limit has been set for how long the function can run.

CO_2

This menu is only displayed if a CO2 sensor has been installed.$_2$ sensor.

ATTENTION

CO_2 A CO2 sensor is not a standard part of all units, but may be purchased as an accessory.

If the number of people using a building varies considerably, controlling ventilation through the $CO2_2$ level in the extract air may be a good solution. This function is often used in offices and schools where use varies greatly during the day and during the week.

← CO2

↳ Vent.high CO2 level	Settings: Standard setting: Description:	Level 2 / Level 3 / Level 4 / Off Level 3 Here you indicate the fan speed level at which the unit is to operate at high CO_2 level.
↳ High CO2 level	Settings: Standard setting: Description:	650 ↔ 2500 ppm 800 ppm Here you indicate the CO_2 level at which the unit is to switch to high fan speed level.
↳ Normal CO2 level	Settings: Standard setting: Description:	400 ↔ 750 ppm 600 ppm Here you indicate the CO_2 - level at which the unit is to switch to normal control.

Air exchange

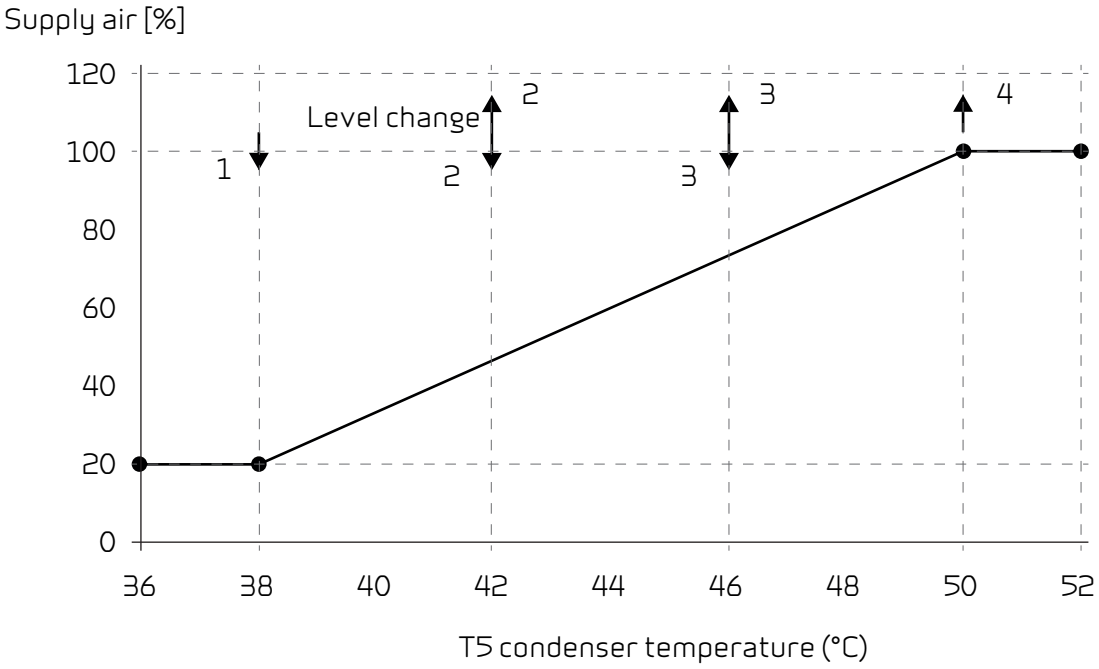
Low humidity in the dwelling can be prevented by reducing ventilation at low outdoor temperatures. This function can be used in countries with regular sub-zero temperatures and at high altitudes where the outdoor air is very dry.

This function can also be used at cold outdoor temperatures if no after-heating element has been installed, and the supply air feels too cold.

← Air exchange

↳ Type of ventilation	Settings: Standard setting: Description:	Energy/Comfort Energy Energy: Here, an energy-optimized operation is ensured by regulating the supply air in relation to the set temperature curve. Comfort: Here, the air change is always balanced. The ventilation level on the supply air and extract air is always the same.
↳ Low temperature curve	Settings: Standard setting: Description:	15 ↔ 46 °C 38 °C When curve controlled, the supply air will be temperate at a time, as a ventilation step is regulated down or up. Min. curve is level 1
↳ High temperature curve	Settings: Standard setting: Description:	39 ↔ 60 °C 50 °C When curve controlled, the supply air will be temperate at a time, as a ventilation step is regulated down or up. Max. curve is level 4
↳ Winter low vent.	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Off Off Here you select the fan speed level at which the unit is to operate at low outdoor temperatures.
↳ Level winter low	Settings: Standard setting: Description:	-20 ↔ 10 °C 0 °C Here you indicate the outdoor temperature at which operation is to change to "Winter low".

Condenser curve controlled



Air filter

The filter alarm has a timer. Its factory setting is 90 days between each filter change. If you want to add pressure-controlled filter change, pressure sensors can be connected via digital input and adjustment in the filter menu.

← Air filter

↳ Filter alarm	Settings: Standard setting: Description:	Filter guard / 30 / 90 / 180 / 360 / 70 / Guard + 70 days 90 days The number of days between filter changes can be set as required. For optimal operation, it is important that filters are clean. A blocked exchanger will increase power consumption.

Temp. control

If you wish to control the supply air temperature, an after-heating element must be installed. An after-heating element allows you to control the supply air temperature, regardless of the outdoor temperature.

An external electrical or water after-heating element can be installed in the supply air duct.

ATTENTION
When heating is not needed in the dwelling, the supply air temperature may fall below the minimum temperature.

← Temp. control

↳ Min. supply air summer	Settings: Standard setting: Description:	5 ↔ 16 °C 14 °C Here you set the minimum supply air temperature that the unit should provide in the summer.
↳ Min. supply air winter	Settings: Standard setting: Description:	14 ↔ 22 °C 16 °C Here you set the minimum supply air temperature that the unit should provide in the winter. Only effective with an after-heating element.
↳ Max. supply air summer	Settings: Standard setting: Description:	16 ↔ 25 °C 22 °C Here, the supply air temperature is set, the unit as maximum must be able to blow in with when heat is needed.
↳ Max. supply air winter	Settings: Standard setting: Description:	22 ↔ 50 °C 25 °C Here you can set the maximum supply air temperature that the unit should provide when heating is required in the winter (only displayed on the panel if the unit is fitted with an after-heating element).
↳ Summer change	Settings: Standard setting: Description:	5 ↔ 30 °C 12 °C Here you set the minimum outdoor temperature for the unit to operate in summer mode. If the outdoor air temperature is lower, the unit will operate in winter mode.

Language

The unit is factory-set to Danish language. You can change the texts to other languages.

← Language

↳ Danish	Description:	Select the desired language on the panel.

Service settings

Password

Password for service settings: 2

User selection 1

You can set the user selection program using special settings that override the operating mode in the main menu. The user selection program is activated via an external signal.

The user selection program can be used, for instance, to create imbalance in supply air and extract air ventilation.

When user selection 1 is active, an icon is displayed on the main screen

← Service / User selection

↳ Select program	Settings: Standard setting: Description:	No / Expanded / Supply air / Extract air / Ventilate Expanded Here you select the program you wish to run.
↳ Expanded	Description:	If you select expanded.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.
↳ Room temperature	Settings: Standard setting: Description:	5 ↔ 30 °C 23 °C Set the desired room temperature.
↳ Supply air	Description:	If you select supply air.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.
↳ Extract air	Description:	If you select extract air.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.
↳Ventilate	Description:	If you select ventilate.

↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.

User selection 2

You can set the user selection program using special settings that override the operating mode in the main menu. The user selection program is activated via an external signal.

The user selection program is used, for instance, for connecting a cooker hood. Ventilation runs at a high level during cooker hood operation. The program can also be used for other functions such as to create imbalance in supply air and extract air ventilation. (User selection 2 will only be displayed if an expansion PCB has been installed).

When user selection 2 is active, an icon is displayed on the main screen

← Service / User selection

↳ Select program	Settings: Standard setting: Description:	No / Expanded / Supply air / Extract air / Ext. offset / Ventilate / Cooker hood No Select the program you wish to run.
↳ Expanded	Description:	If you select expanded.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.
↳ Room temperature	Settings: Standard setting: Description:	5 ↔ 30 °C 23 °C Set the desired room temperature.
↳ Supply air	Description:	If you select supply air.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.
↳ Extract air	Description:	If you select extract air.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.
↳Ventilate	Description:	If you select ventilate.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.

↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.
↳Cooker hood	Description:	If you select cooker hood.
↳ Duration	Settings: Standard setting: Description:	Off / 15 ↔ 480 minutes Off Time runs with 15 minute intervals. Select for how long the program is to continue after the external signal has ceased.
↳ Fan speed level	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 4 Select the desired fan speed level.

After-heating

Set the operation of the after-heating element here.

ATTENTION
An after-heating element is not standard, but it can be purchased as an accessory.

If you wish to control the supply air temperature, an after-heating element must be installed. An after-heating element allows you to control the supply air temperature, regardless of the outdoor temperature.

An external electrical or water after-heating element can be installed in the supply air duct.

← Service / After-heating

↳ After-heating element	Settings: Standard setting: Description:	Electrical after-heating / Water heating / Off Off Here you indicate whether an after-heating element has been installed and if so, what type.
↳ Activate delay	Settings: Standard setting: Description:	0 ↔ 60 minutes 0 minutes This shows the amount of minutes before the after-heating element is released once heating is required.
↳ Heating output	Settings: Standard setting: Description:	0 / 5 / 10V / 0-10V / Period 0-10V Choose from: 0.5 or 10V: 3 level regulation. 0-10V: Stepless regulation 0-10V. Period: ON / OFF for 1 min.

Air quality

← Service / Air quality

↳ Function	Settings: Standard setting: Description:	Humidity+CO2 / Humidity / Off Humidity Here you can choose from off / humidity sensor and / or CO2 sensors.

Air exchange

Stepless settings between 20 and 100% are possible for the four fan speed levels. You can likewise set supply air and extract air separately, which is of considerable advantage when balancing the ventilation system.

← Service / Air exchange

↳ Min. vent. supply air	Settings: Standard setting: Description:	0 / Level 1 / Level 2 / Level 3 / Level 4 0 You can set a minimum fan speed level for supply air.
↳ Min. vent. extract air	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 1 You can set a minimum fan speed level for extract air.
↳ Max. vent. extract air	Settings: Standard setting: Description:	Level 3 / Level 4 4 You can set a maximum fan speed level for extract air.
↳ Level 1 - Supply air	Settings: Standard setting: Description:	20 ↔ 100 % 35 % Fan speed level 1 is typically used for the "Humidity low" and "Low outdoor temperature" functions.
↳ Level 2 - Supply air	Settings: Standard setting: Description:	20 ↔ 100 % 50 % Fan speed level 2 is typically used for basic ventilation.
↳ Level 3 - Supply air	Settings: Standard setting: Description:	20 ↔ 100 % 75 % Fan speed level 3 is typically used for the "Humidity high" function and "Guest-level".
↳ Level 4 - Supply air	Settings: Standard setting: Description:	20 ↔ 100 % 100 % Fan speed level 4 is typically used for "Cooker hood operation" and "Party-level".
↳ Level 1 - Extract air	Settings: Standard setting: Description:	20 ↔ 100 % 35 % Fan speed level 1 is typically used for the "Humidity low" and "Low outdoor temperature" functions.
↳ Level 2 - Extract air	Settings: Standard setting: Description:	20 ↔ 100 % 50 % Fan speed level 2 is typically used for basic ventilation.
↳ Level 3 - Extract air	Settings: Standard setting: Description:	20 ↔ 100 % 75 % Fan speed level 3 is typically used for the "Humidity high" function and "Guest-level".
↳ Level 4 - Extract air	Settings: Standard setting: Description:	20 ↔ 100 % 100 % Fan speed level 4 is typically used for "Cooker hood operation" and "Party-level".
↳ Delayed start-up	Settings: Standard setting: Description:	0 ↔ 4 min. 2 min. The start-up time can be set from 0 to 4 min.

Temperature control

The menu **Temperature control** allows selection of the operative temperature sensor in the unit.

You can set a minimum room temperature for when the unit is to stop (Room low temperature).

This function is useful, for instance if you are not in and the heating is cut off. The dwelling is then no longer heated and the room temperature will fall. To prevent the ventilation unit from cooling the dwelling even further, you can set it to stop at a minimum room temperature.

← Service / Temp. Control

↳ Room sensor	Settings: Standard setting: Description:	Extra / Suply air Extra Here it is possible to specify which sensor should be the controlling sensor.
↳ Select heat source	Settings: Standard setting: Description:	Off / HP / HP + after-heating HP (heat pump) You can disconnect the heat pump here if you do not want to use it.
↳ Room low temperature	Settings: Standard setting: Description:	Off / 1 ↔ 20 °C Off Indicate whether you want to stop ventilation at low room temperatures.

De-icing

← Service / De-icing

← De-icing		
↳ Fan speed level de-icing	Settings: Standard setting: Description:	None / User / Low User: None: Indicates ceased supply air during de-icing. User: Indicates user-defined supply air during de-icing. Low: Indicates low level supply air during de-icing.
↳ T6 maximum de-icing time	Settings: Standard setting: Description:	2 ↔ 60 minutes 10 minutes Indicates the maximum time allowed for de-icing the evaporator. If de-icing has not been completed within the set time, an alarm will be displayed and the unit will stop.

Supply air control

The menu "**Supply air control**" allows you to select the duration for which the compressor has to be off before it restarts.

ATTENTION
The parameters in the menu "**Supply air control**" should only be adjusted by persons with knowledge of control technology.

← Service / Supply air control

↳ PI regulation	Settings: Standard setting:	0 ↔ 30%/° 7% / °
↳ Integration time	Settings: Standard setting:	0 ↔ 600 sec. 120 sec.
↳ Neutral zone	Settings: Standard setting:	0 ↔ 10° C 2° C
↳ Temperaturramp.	Settings: Standard setting:	Off / 0.01 ↔ 1.0 °C/s 0.10°C / s
↳ Capacityramp.	Settings: Standard setting:	Off / 0.1 ↔ 10.0 °C 0.5% / s
↳ Condensor limit	Settings: Standard setting:	4 ↔ 70° C / Off 55° C
↳ Hot gas modulation	Settings: Standard setting:	Auto / Normal / Fast / Very fast Auto
↳ Restart time	Settings: Standard setting: Description:	0 ↔ 60 minutes 6 minutes Minimum duration (in minutes) for which the compressor has to be off before it restarts.

Room temperature control

The menu "**Room temp. control**" makes it possible to set the regulator for controlling the room temperature.

ATTENTION
The parameters in the menu "**Room temp. control**" should only be adjusted by persons with knowledge of control technology.

← Service / Room temp. control

↳ Type of response	Settings: Standard setting: Description:	Slow / Normal / Fast / User Normal Slow: Gain = 4.0 and integral = 12 Normal: Gain = 6.0 and integral = 6 Fast: Gain = 8.0 and integral = 4 User: 6.0 = 6
↳ Neutral zone	Settings: Standard setting: Description:	0.0 ↔ 10 °C 2.0 °C Set the offset temperature at which the shift between compressor and after-heating should be activated.

Restart

FIRE ALARM acknowledgement

Fire alarm (code 3) can be acknowledged automatically via **SERVICE** - **RESTART FIRE ALARM** menu: [OFF, FIRE].

Fire alarms can be acknowledged automatically during fire drills and tests. This requires that the fire thermostat input has returned to normal (closed contact).

← Service / Restart

↳ Restart	Settings: Standard setting: Description:	Off / HP/LP / Continuous / Fire Off HP/LP: High pressure alarm/ Low pressure alarm. Restarts automatically. Continuous: Continuous operation after the second Critical Alarm. Fire: Automatic acknowledgement when fire input is back to normal.

Restore settings

It is possible to restore factory and Back-up settings.

← Service / Restore settings

↳ Restore settings	Settings: Standard setting: Description:	Off / Factory / Back-up / Restore Off Factory: Restores factory settings. Back-up: Here you can Back-up. When you have Backed-up, the Restore menu appears allowing you to restore the Back-up of the selected settings.

Manual operation

It is possible to test the functions of the unit manually.

← Service / Manual operation

↳ Manual operation	Settings: Standard setting: Description:	Off / De-icing / Damper / Supply air / Extract air / Vent.+ compressor / Vent. + heating Off The functions of the unit can be read off manually.
↳ Off	Description:	Manual test deactivated (normal operating mode).
↳ De-icing	Description:	Test of de-icing function.
↳ Supply air	Description:	Test of supply air.
↳ Extract air	Description:	Test of extract air.
↳ Vent.+comp.	Description:	Test of ventilation and compressor.
↳ Vent.+heating	Description:	Test of ventilation and heating operation. During the test the heating element receives a 50% signal.

Modbus address

Nilan's ventilation units have open Modbus communication, and you set the desired Modbus address here.

The Modbus protocol with all registers can be downloaded from our website.

← Service / Modbus address

↳ Modbus address	Settings: Standard setting: Description:	1 ↔ 247 30 The Modbus address for the local network is entered here.

Data log interval

Data can be logged at intervals of 1-120 minutes.

- A choice has been made to log temperatures in whole degrees Celsius in order to minimize logfile sizes.
- The status of digital inputs and outputs have been combined in two joint log variables, "Din" and "Dout".
- Alarms are always logged at the time they are viewed.

← Service / Data log interval

↳ Data log interval	Settings: Standard setting: Description:	1 ↔ 120 Min. / Off 10 Min. If "Off" is selected, logging will not occur periodically, but only at events and alarms.

Data logging

In order to data log you need the XML file " Devicelog.xml ", which is a decoding specification required by the LMT PC program. The file can be downloaded from NilanNet under the menu item "After Sales/ Software".

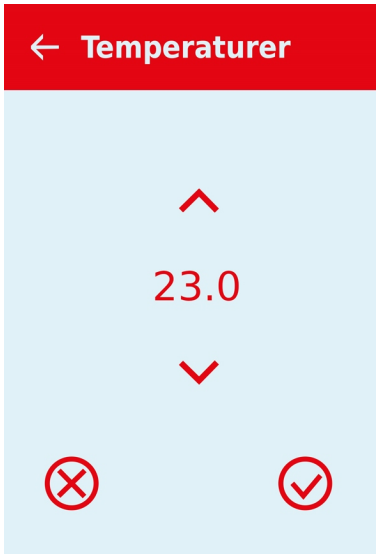
- Enter the file in the "..\Database" directory under the current LMT project.
- You can then retrieve the log from the control system via the menu "Device - Devicelog download".
- The log is shown in LMT in both tabular and graphic form.
- You can export the log file to Microsoft Excel format.

ATTENTION
Alarms are still logged if "Data logging" is off.

Theme

You can choose between a red and a green theme for the screen.

↳ Theme	Settings: Standard setting: Description:	Green / Red Green If you select red, text and borders will be red.

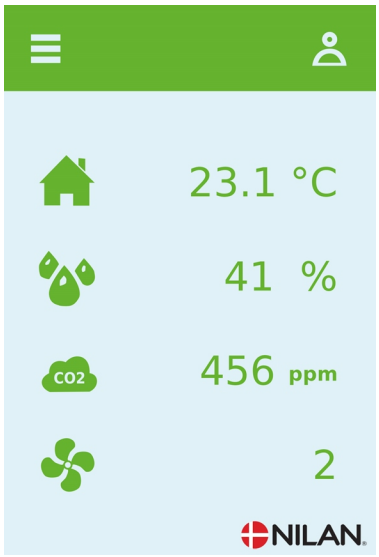


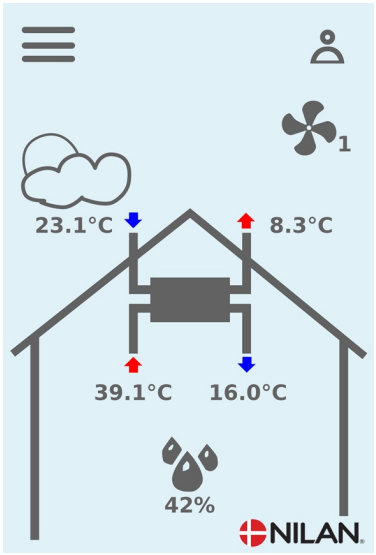
Main screen

You can choose from 2 different images for the main screen.

Service / Main screen

↳ Main screen	Settings: Standard setting: Description:	Normal / House House If you select "Normal", data will be displayed on a list, but the settings options available on the main screen are the same.





Panel settings

It is possible to adjust the back-light and to calibrate the display on the panel.

Service / Screen set.

↳ Backlight (active)	Settings: Standard setting: Description:	3 ↔ 100 % 90 % You can set the backlight in active function.
↳ Backlight (off)	Settings: Standard setting: Description:	0 ↔ 100 % 5 % You can set the backlight in "not" active function.
↳ Calibrate (off)	Settings: Standard setting: Description:	Off / On Off If you select "On", it is possible to calibrate the screen by pressing the point as it gradually moves.

Alarm list

VPM unit

Alarm list

The list below relates to Comfort units, and the events are divided into the following categories:

⚠	Warning	Operation continues, but something no longer functions optimally.
⚠	Critical	Operation has stopped partially or completely as a serious error requires immediate attention.

ID	Type	Display text	Description / cause	Rectification of error
01	⚠	Hardware error	Error in the hardware of the control system.	If resetting does not help, contact service.
02	⚠	Alarm timeout	A warning alarm has become a critical alarm.	Register alarm and reset. If the alarm persists, contact service.
03	⚠	Fire alarm activated	The unit has stopped because the fire thermostat has been activated.	If there has been no fire, contact service.
04	⚠	Pressure switch	The high-pressure switch in the refrigeration circuit has been triggered, possibly due to: • Extremely warm outdoor air supply • Clogged filter • Defective fan	Check for faults and reset the alarm Contact service if you cannot reset the alarm or if alarms often occur.
06	⚠	Error in de-icing the heat pump	The de-icing time has been exceeded. The exchanger or the heat pump has failed to de-ice within the maximum time. This may be due to the unit being exposed to very low outdoor temperatures.	Contact service if resetting the alarm does not help. Register the current operating temperatures from the "Show data" menu in order to ease the service process.
07	⚠	Frost in after-heating element	Temperature sensors: Units without a T9 sensor: Frost thermostat in water heating element triggered. Units with a T9 sensor: Water heating element could not reach 20°C within 6 min.	Check for adequate insulation around the water heating element and its connections. Reset alarm.
08	⚠	Frost thermostat triggered	Temperature sensors: Only on units with a T9 sensor: Frost thermostat in water heating element triggered.	Check for adequate insulation around the water heating element and its connections. Reset alarm.
10	⚠	Over temperature Electrical after-heating	The electrical heating element has overheated. A lack of airflow may be due to clogged filters, a blocked air intake or a defective supply air fan.	Check that air flows into the dwelling. Check filters and the air intake. Reset alarm. If the above does not resolve the issue, contact service.
11	⚠	Low flow over the electrical heating element	Lack of airflow in the supply air. See alarm code 10.	See alarm code 10.

15		The room temperature is too low	When the room temperature is below 10°C, the unit will stop in order to prevent further cooling of the house. This may, for instance, be during a period when the house is unoccupied and the heating system is off.	Heat up the house and reset the alarm.
16		Software error	Error in the control system program.	Contact Service.
17		Watchdog warning	Error in the control system program.	Contact Service.
18		Content of database changed	Parts of the program setting have been lost. This may be due to a prolonged power cut or a lightning strike. The unit will continue to operate with standard settings.	Reset alarm. Set the desired week program. Contact service if the unit does not operate to your satisfaction/ as before, as some subprograms may have been lost. (Subprogram is only available for service).
19		Change filter	The filter monitor has been set at X amount of days for check-up/change of filter (30, 90, 180, 360 days). The standard setting is 90 days.	Clean/change filter. Reset alarm.
21		Check date and time	Is displayed during power cuts.	The settings of the weekly clock must be checked and adjusted if necessary. Reset alarm.
22		Error in air temperature	It is impossible to heat the supply air as desired (only applicable if you have an after-heating element). The after-heating element and the unit cannot increase the temperature to the desired level.	Set a lower supply air temperature. Reset alarm.
27-58		Error on the temperature sensor	One of the temperature sensors has either short circuited, been disconnected or is defective.	Register which sensor, Tx, is faulty and contact service.
71		Error de-icing heat exchanger	Max. de-icing time exceeded for counterflow heat exchanger. This may be due to the unit being exposed to very low temperatures.	If resetting the alarm does not help, contact service. Register the current operating temperatures from the "SHOW DATA" menu in order to ease the service process.
72		Abnormal low evaporator temperature	Abnormal evaporator temperature (T6) is due to insufficient air flow.	Change filters, check outdoor air intake is not stopped. In case of constant fault contact service.
92		Backup error	Error when writing or entering the installer's settings.	Contact service.
96		Error in damper test	Damper (open / closed) not fulfilled	Must be unset in the Alarm

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