



NORDcanopy

UV Cleaning system maintenance and user manual

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ETS NORD UV-cleaning system uses UV-C radiation to destroy grease particles in the canopy extraction chamber and duct. UV radiation is extremely dangerous to humans, and the user should never look at ultraviolet radiation with the naked eye.

Warnings!



This device emits ultraviolet radiation and ozone!

Prolonged exposure to ozone and ultraviolet radiation can cause bodily injury.



When removing grease filters, make sure that the UV lamps are not on!



Risk of falling!

Make sure installation and service personnel have stable work platforms when installing the device



Use protective glasses and gloves during installation and maintenance!



ALWAYS power off the system before any maintenance work!



Only original spare parts and UV lamps purchased from ETS NORD may be used in the UV cleaning system! UV lamps can be ordered from the sales office.

1. ETS NORD kitchen canopy maintenance instructions

- To ensure the best hygiene, fire safety and functionality, it is important to maintain cleanliness in the entire kitchen, including the appliances located in the kitchen. The frequency of cleaning the canopy depends on its use and should be determined on the basis of the intensity of use. The canopies are cleaned by gently wiping them, using detergents suitable for stainless steel. The use of highly alkaline substances (pH > 11) should be avoided.
- All internal and external surfaces of the kitchen canopy, including light fixtures, are cleaned using neutral cleaning agents. Carefully rinse the surfaces after cleaning, to avoid harmful interactions of cleaning agents and high temperatures.
- When maintaining the UV canopy, its filters and protective shields should be washed up to once a week, according to the intensity of use of the canopy - this significantly increases the efficiency of the filters, which means that even less grease reaches the further duct system.
- To clean the exhaust chamber HFK filters and UV lamp(s) are removed from the kitchen canopy. To clean the supply chamber, the front panel of the kitchen canopy and control unit (if there is any) is removed.

When performing canopy maintenance, you must always activate the “Canopy maintenance” mode from the UV cleaning system LCD control panel (see chapter “Using the LCD panel of the UV cleaning system”).

ATTENTION! Do not use hard or abrasive detergents, chlorine or bleach when cleaning the canopy!

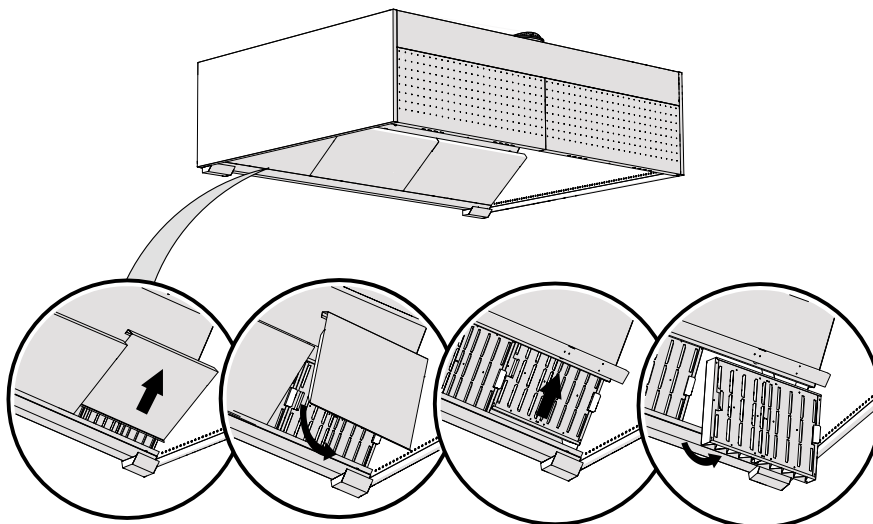
Never clean the kitchen canopy when any of its surfaces are hot.

The UV-cleaning system control unit and UV lamp(s) must be removed from the canopy before cleaning interior of the canopy or the exhaust duct.

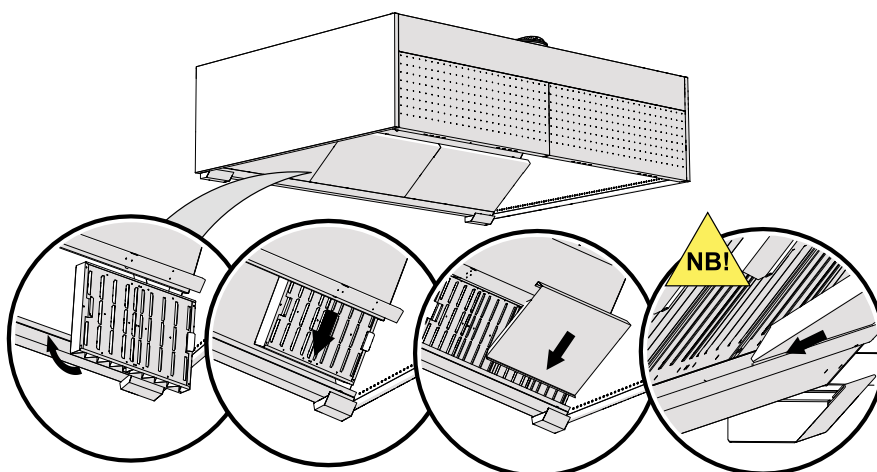
Never pour water or liquid cleaning agents on or inside the UV control unit.

1.1 HFK grease filters, grease collection containers and UV protection shields

- Removing the HFK grease filters and UV protection shields from the kitchen canopy to clean them.

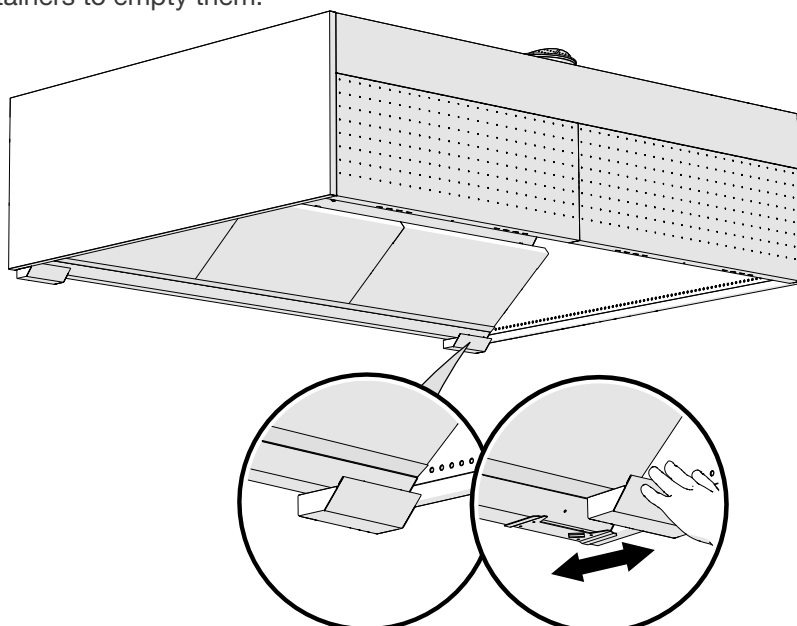


- Putting the HFK grease filters and UV protection shields back into the canopy.

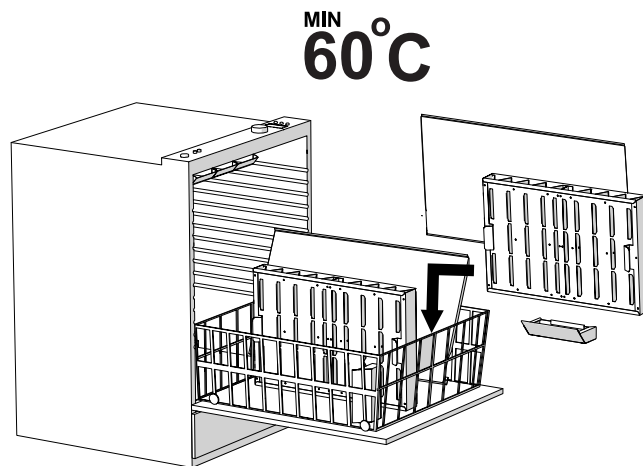


- Removing the grease collection containers to empty them.

ATTENTION! Liquid grease must always be disposed of using methods approved according to local regulations.

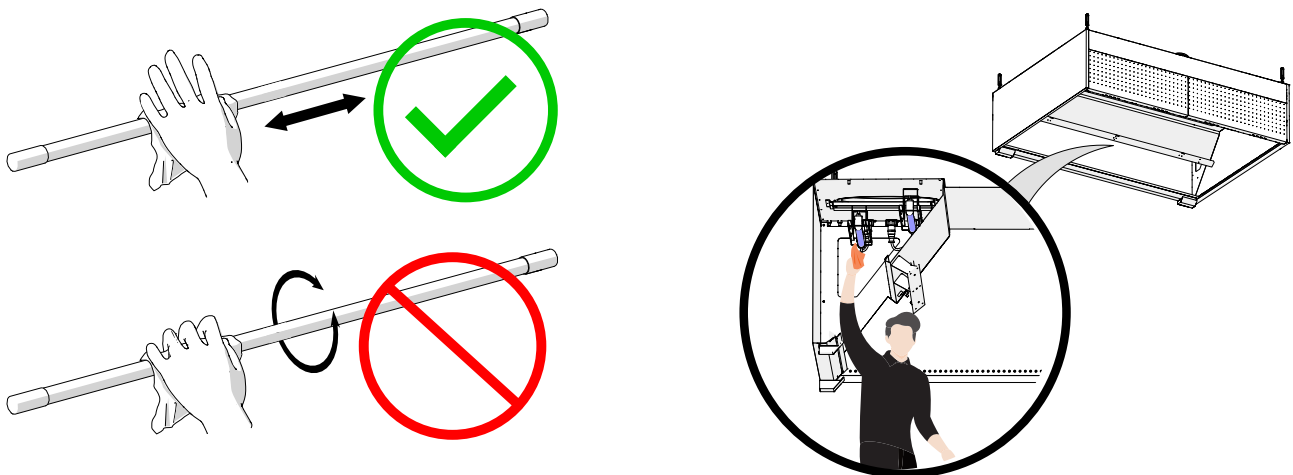


UV protection shields, HFK grease filters and grease collection containers may be washed by hand, in a dishwasher, or steam cleaned.



1.2 UV lamp maintenance

The UV lamp can be checked and cleaned without removing it from the canopy. When the „Canopy maintenance“ function is activated from the LCD panel, then during that time you can perform a visual check of the lamp and when necessary, clean it. The lamps should be checked once a week and in case of visual dirt, clean the lamp surface with a damp cloth.



For more heavily soiled lamps, use 90–100% isopropyl alcohol.

1.3 Removing UV lamp



In the case of a defective lamp, it must be replaced only with an identical product from ETS NORD sales office. Take the removed and used lamp to the appropriate waste disposal facility.

When the function „Canopy maintenance“ is in use, you can never at the same time remove the UV lamp from the canopy. For this, the supply voltage must always be disconnected from the control unit.

- When washing the canopy, remove the UV cleaning system control unit from the canopy inlet chamber by first disconnecting its power connector and then all other connectors, then remove the control unit from the canopy.



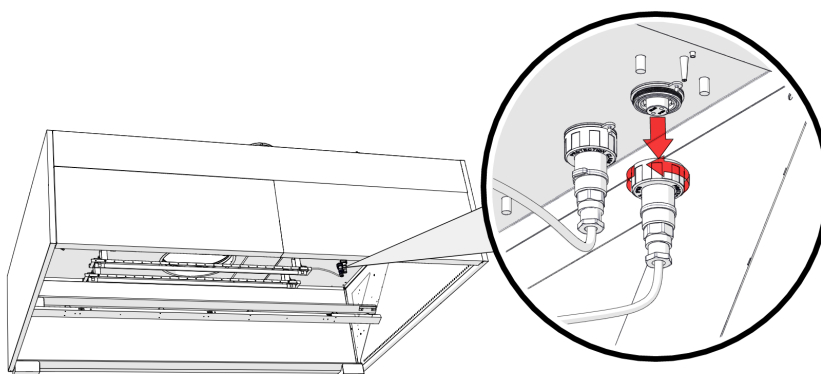
Risk of falling!

Make sure when removing the control unit from the canopy personnel has stable work platforms.

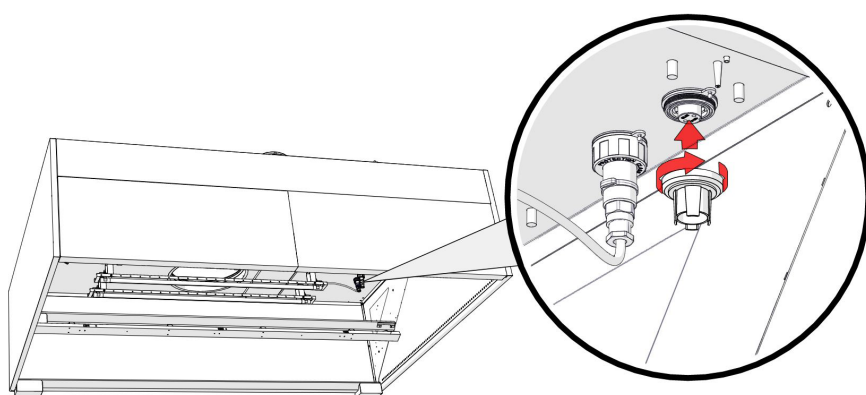
- The UV lamps located inside the extraction chamber must be removed.

To remove the UV lamp from the canopy, disconnect the UV lamp from the power circuit by first turning the locking ring of the plug clockwise and then pulling the plug down.

Do not pull on the cable, but only on the plug.



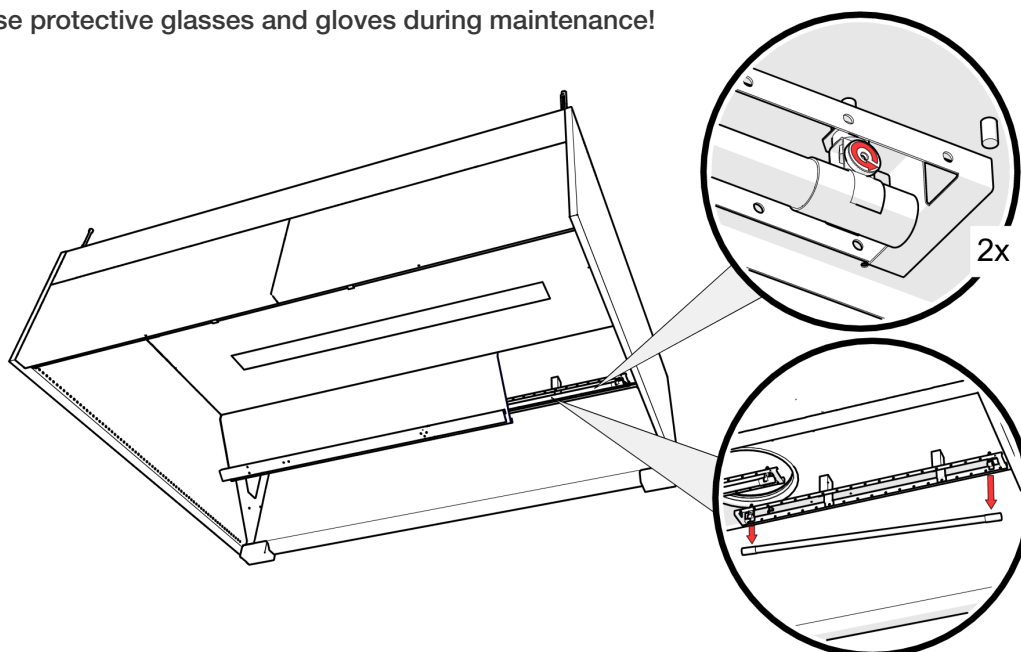
- After disconnecting the UV lamp from the plug, screw the cap of the bulb onto the open socket on the ceiling. The protective cap hangs from the socket.



- To remove the UV lamp from the canopy extraction chamber, open the lamp fixing clips by turning its screw fastener counterclockwise, and then carefully remove the UV lamp from the canopy extraction chamber.



Use protective glasses and gloves during maintenance!



When the kitchen canopy has been serviced, the UV lamp and the UV control unit must be installed back into the canopy in the reverse order of how they were removed.

2. Using the LCD panel of the UV cleaning system

Press the control knob to enter the menu and accept the changes.



Turn the control knob to navigate in the menu.



Press **ESC** button to cancel changes or move back to previous menu. Holding the key down for a few seconds of time returns the controller to its basic mode. The display shows the basic view, the background light dims.



There is symbol in front of a settings that requires maintenance code and is meant for ETS NORD technicians

	NORDcanopy UV	
	System state	Off >
	Canopy maintenance	Disabled >
	Controller 1	>
	System work permission	Enabled

In the LCD **NORDcanopy UV** menu, you can on/off the system state, enable/disable the canopy maintenance mode.

NORDcanopy UV > System state

	System state
<input type="radio"/>	Off
<input checked="" type="radio"/>	On
<input type="radio"/>	Auto schedule

You can disable the UV system by changing the **System state** mode to **Off**.

You can enable the UV system by changing the **System state** mode to **On**.

To use the **Automatic schedule** mode, an automatic schedule must be prepared in advance in cooperation with an ETS NORD technician. If this has not been done, then the system will not automatically enable/disable itself.

NORDcanopy UV > Canopy maintenance

	Canopy maintenance
<input type="radio"/>	Disabled
<input checked="" type="radio"/>	Enabled

Kitchen staff can perform canopy washing/maintenance while the **System state** is **On** by enabling the **Canopy maintenance** mode. The default length of the maintenance mode is 2 hours during which the UV lamps are automatically switched off by the system.

	NORDcanopy UV	
	System state	On >
	Canopy maintenance	Enabled >
	Remaining maintenance time	120 min >
	Controller 1	>

A new line will appear in the menu when this mode is enabled, this will display the remaining maintenance time before the lamps turn on.

Once the remaining time has run out the **Canopy maintenance** mode has finished, and it will automatically

return to **Disabled** and the lamps will turn on again.

If the maintenance mode has been enabled and for some reason you need to stop this process, simply enter the **Canopy maintenance** menu, and change the mode state back to **Disabled**. This will stop the process and the lamps will automatically turn back on.

UV system operation description

The UV system operates normally when no alarms are active. If there is a pressure drop in the system (below 20 Pa), the device notifies you with an alarm and continues working only when the pressure has risen again (above 20 Pa).

If the device is working and the “**Canopy maintenance**” function is not enabled, and the UV protection shields are removed in the process then the system will stop working. After the UV protection shields have been put back, the system must be started again from the LCD panel (if the system was using an automatic schedule, then it must be set as the **System state** again).

2.1 Controller 1

You can verify that the **NORDcanopy UV** system has been enabled and check the system indication states from the **Controller 1** menu.

Pressure x.x will display the negative pressure value (**must be at least 20 Pa**) in the extraction chamber of the canopy.

Safety switch x.x state will indicate whether the UV canopy extraction chamber cover plates are installed and in place.

1. State **Okay** means that the cover plates are installed and in place.
2. State **Not okay** means that the cover plates are not installed and in place.

Lamp x state will indicate whether the UV lamp(s) in the canopy are working.

1. State **On** means that the lamps are working.
2. State **Off** means that the lamps are not working.

Ballast temperature indicates the control unit internal temperature.

Depending on the UV system type (1 lamp or up to 4 lamps) the **Controller 1** menu will differ.

NORDcanopy UV > Controller 1

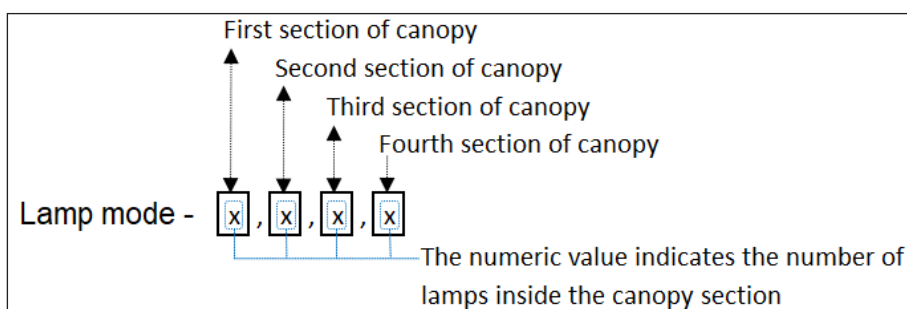
Controller 1	
Pressure 1.1	35 Pa >
Safety switch 1.1	Okay >
Lamp 1 state	On >
Ballast temperature	25 °C >

NORDcanopy UV smaller system that supports 1 lamp, will have pressure, safety switch, lamp state and ballast temperature displayed under **Controller 1** view.

NORDcanopy UV > Controller 1 > Lamp mode – x,x,x,x

Lamp mode - 2,1,0,0	
Pressure 1.1	35 Pa >
Pressure 1.2	36 Pa >
Safety switch 1.1	Okay >
Safety switch 1.2	Okay >
Lamp 1 state	On >
Lamp 2 state	On >
Lamp 3 state	On >
Ballast temperature	25 °C >
Maintenance time - typical	2 h >
Controller 1 status detail	>

NORDcanopy UV larger system that can support up to 4 lamps and may consist of 4 sections (this depends on how the kitchen is modelled), will have pressures, safety switches, lamp states and ballast temperature displayed in view **Lamp mode - x,x,x,x** which is under **Controller 1** view.



NORDcanopy UV > Controller 1

Controller 1	
Lamp 1 state	Off
Ballast temperature	25 °C
Maintenance time - typical	2 h >
Controller 1 status detail	>

By default, the **Canopy maintenance** function length is 2 hours, but you can change this from **Controller 1** view under **Maintenance time – typical**.

NORDcanopy UV > Controller 1 > Maintenance time -typical

Maintenance time - typical
3 h
min: 1 max: 5

Enter the **Maintenance time – typical** view and using the control knob by turning it choose a value between 1-5. Once you have chosen a suitable value press the OK button to confirm this.

Controller 1	
Lamp 1 state	Off
Ballast temperature	25 °C
Maintenance time - typical	3 h >
Controller 1 status detail	>

The same chosen value is also now reflected in the **Controller 1** menu view under.

2.2 Controller 1 status detail

More detailed info about the state of the **NORDcanopy UV** lamps can be found under the **Controller 1 status detail** menu.

Lamp x state displays whether the lamp is on or off.

Lamp x runtime displays the working time of the lamp in hours i.e., the total number of hours that the lamp has been in the **On** state. It is important from time to time to check the lamp's runtime value, because at 10 000 hours the lamp must be replaced. The system itself also has a notification alarm when this event occurs.

Lamp x start count displays the number of times the lamp has been switched on.

NORDcanopy UV > Controller 1 > Controller 1 status detail (UV-L menu view)

Controller 1 status detail	
Lamp 1 state	On
Lamp 1 runtime	748
Lamp 1 start count	78
Lamp 2 state	On
Lamp 2 runtime	748
Lamp 2 start count	78

The smaller UV system also has 2 additional lines that display relevant information mostly to the technicians whether the lamp is in working order or not:

- Lamp 1 permission state is **Enabled** when the system is turned on and lamps are working, state is **Disabled** when the system and lamps are not working or when there is an error in the system.

NORDcanopy UV > Controller 1 > Controller 1 status detail (UV-S menu view)

Controller 1 status detail	
Lamp 1 state	On
Lamp 1 runtime	748 h
Lamp 1 start count	78
Lamp 1 permission	Enabled >

2.3 System work permissions

The UV system does not have an alarm that will notify the user whether the UV system has a work permission from building automation or AHU. However, the user can confirm the permission state in the LCD main menu NORDcanopy UV. If this functionality is used in the system, then the line System work permission will be displayed in the menu, state Enabled means that the system has the necessary work permission and state Disabled means that it does not have the necessary work permission. .

NORDcanopy UV

NORDcanopy UV	
System state	Off >
Canopy maintenance	Disabled >
Controller 1	>
System work permission	Enabled

2.4 UV notification alarms

Alarm header	! [1.1] Contact service@etsnord.com
Alarm body	<p>ERROR XXX</p> <p>Received 05.04.2023 12:46:05</p> <p>Press OK to acknowledge the alarm</p>

In most alarm cases you will need to contact the ETS NORD technician to determine the problem and how to fix it. In such a case the alarm will display the contact information at the top of the alarm notice and the error code in the body.

When an alarm such as this occurs simply contact an ETS NORD technician, relay the error code and appoint a maintenance time.

2.4.1 Safety switch alarm

! [1.1] Check safety switch
<p>ERROR 001</p> <p>Received 05.04.2023 12:46:05</p> <p>Press OK to acknowledge the alarm</p>

When the system is **On** (working), and the safety switch status is **Not okay** an alarm will occur that will notify you to check the state of the switch. Safety switch state **Not okay** may occur in cases when the UV system cover plates are not properly installed..

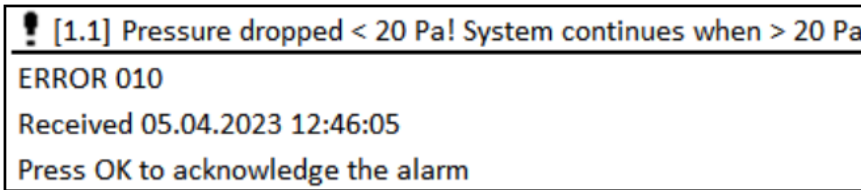
Alarm error codes: 001, 002, 003 and 004.

The alarm header will display which canopy section you need to check, the alarm body will contain the error code. If the alarm has been activated, then you must do the following:

1. Acknowledge the alarm by pressing the OK button.
2. Check that the UV system cover plates are properly installed.
3. If the alarm continues to be active contact ETS NORD service.

NB! This alarm will prevent the operation of the system.

2.4.2 Pressure alarm



When the system is On (working), and the pressure alarm has been activated then the canopy extraction chamber negative pressure has dropped below 20 Pa.

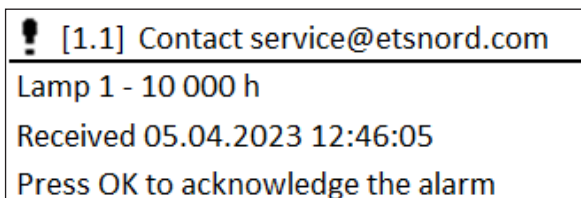
Alarm error codes: 010, 011, 012 and 013.

Do the following:

1. Acknowledge the alarm by pressing the OK button.
2. Wait for the pressure to restore.
3. If the alarm continues to be active contact ETS NORD service.

NB! This alarm will prevent the operation of the system.

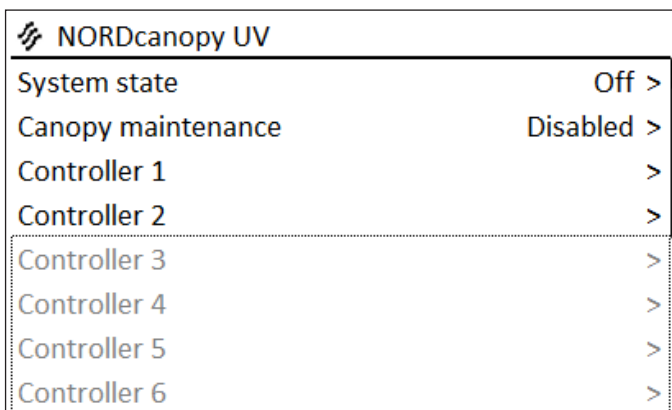
Lamp service alarm



When the lamp has reached 10 000 working hours the system will be notified of this event by displaying an alarm. This alarm does not prevent the operation of the system, but the lamps should be changed, and for this, the corresponding work must be ordered from ETS NORD AS or its cooperation partners - Contact us at service@etsnord.com.

The alarm header will display the contact information and alarm body the information about which of the lamps needs replacing.

2.5 Multiple UV canopies system



If you have several UV canopies in your kitchen, turning the system on/off is still done from the **NORDcanopy UV** menu under **System state** - it turns all the devices on and off.

But the additional canopies are referenced as **Controller x** in the menu. When entering the **Controller x** menu, the same structure applies as in the case of **Controller 1**.

3. System settings menu

System settings	
Controller 1 info	>
Time	14:10 >
Date	06.04.2023 >
Language	English/English >

System settings include setting the time, date, and language as well display settings and device type information.

3.1 Setting date, time, and language

It is important that the time and date are correct. Alarm information, for instance, shows when an alarm has been activated and inactivated. It is highly recommended to ensure that the time and date are correct. The device clock takes daylight savings and leap years into account automatically. Hours and minutes can be set separately.

System settings > Time

Time
Enter hours
17:01
hh:mm

1. Set hours and press **OK** to accept.
2. Set minutes and press **OK** to accept.
3. Press **Esc** to cancel and exit if needed.

System settings > Date

Date
Enter date
Mon 03.04.2023
dd.mm.yyyy

1. Set Day and press **OK** to accept (name of weekday is updated automatically).
2. Set Month and press **OK** to accept.
3. Set Year and press **OK** to accept.
4. Press **Esc** to exit.

System settings > Language

Language
English/English
Suomi/Finnish
Svenska/Swedish
Eesti/Estonian

You can change the LCD/control unit language here if the device has more than one language.

3.2 Display settings

System settings > Display settings

✖ Display settings	
Display version	xxxxxx
Contrast	75 >

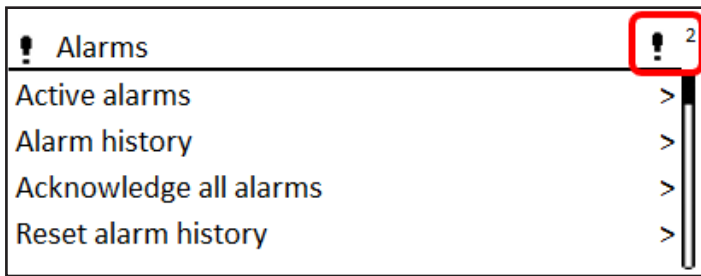
You can adjust contrast. If you wish the display to be brighter, set a smaller numerical value. The setting range is 50... 100. The display changes after you have confirmed the setting change.

System settings > Type info

✖ Type info	
Serial number	XXXXXXXX
Application version	x.x.x
Ouman Ouflex	x.x.x
Display	x.x.x
Platvorm SW	x.x.x

Type information shows the device platform version and application version. The name of the application and version is determined by the manufacturer. This information is useful especially in the case of maintenance or upgrades.

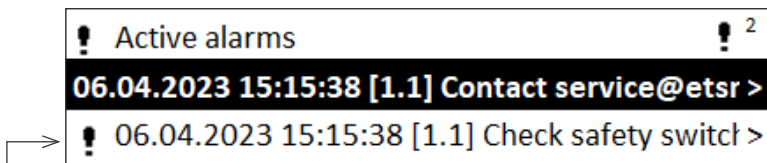
4. Alarms menu



In the LCD alarm menu, you can check the active alarms and what alarms have been active. The number of active alarms is shown in the right corner of the main view.

1. Pressing the **OK** button will acknowledge the alarm.
2. Pressing the **Esc** button will silence the alarm but does not acknowledge it.

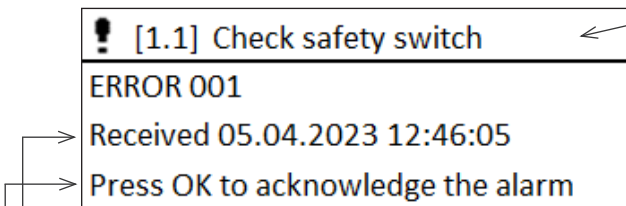
Alarms > Active alarms



Every active alarm is shown in a separate row, where you can see when the alarm has become active.

Press **OK** to get more information about the alarm.

An exclamation mark in front of the date shows that the alarm has been silenced by pressing **Esc**.

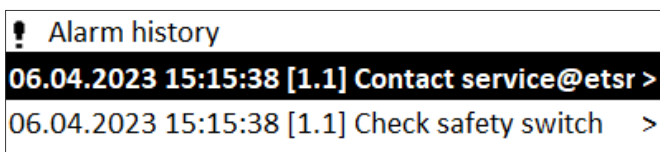


The heading of the alarm view shows the reason for the alarm in cases where the issue might be able to be fixed by yourself. In most error cases it will display the ETS NORD technician contact information.

Alarm body has error code or lamp maintenance notification message.

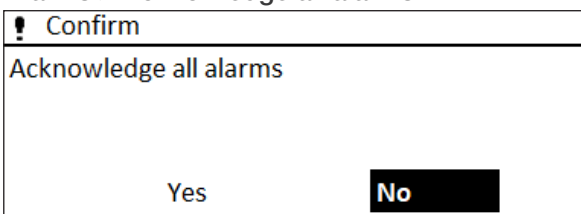
The time when the alarm was activated.

Alarms > Alarm history



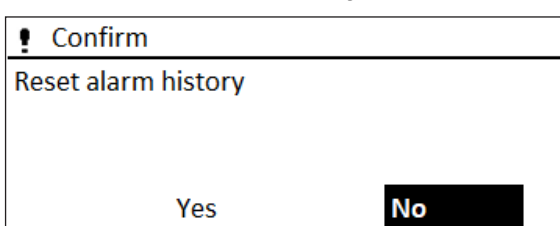
You can see the cause of the alarm and when the alarm has become active (e.g., 06.04.2023 at 11:11:38). The last 10 alarms can be seen in Alarm history.

Alarms > Acknowledge all alarms



Before acknowledging all alarms, confirmation is requested.

Alarms > Reset alarm history



Before deleting alarm history, confirmation is requested



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