

Manual ZERO+

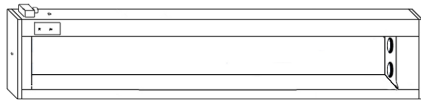


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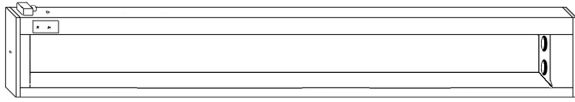
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This manual contains both safety information and user instructions and must be read carefully by both owners and operators of ZERO+, especially before first-time operation. The following is applicable: Installation and service of ZERO+ must be carried out by qualified personnel only. To avoid safety risks, you must consult UVtech AB before any change to or re-installation of the ZERO+ system. UVtech AB does not warrant ZERO+ for changes made by others, unless approved by UVtech AB.

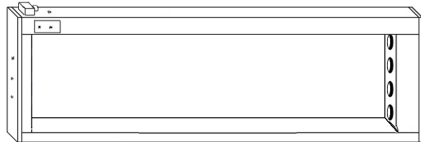
Components



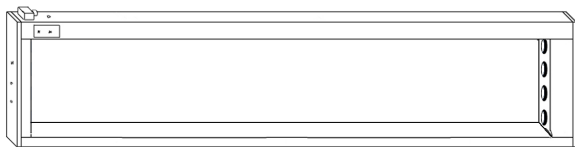
ZERO+ 200



ZERO+ 275



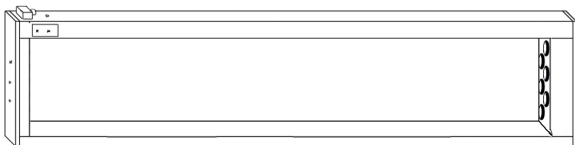
ZERO+ 400



ZERO+ 550



ZERO+ 600



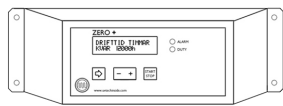
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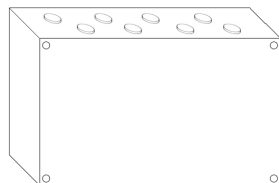
ZERO+ Tube 870



ZERO+ Tube 1640



Touch Panel



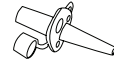
Power Box
(incl. a plastic hose and a separate nipple)

All UV-cassettes are delivered with:

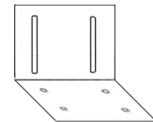
1 x plastic hose (for the pressure switch)



1 x nipple



As an option, you can order brackets for every UV-cassette:



2 x bracket



2 x positioning plate

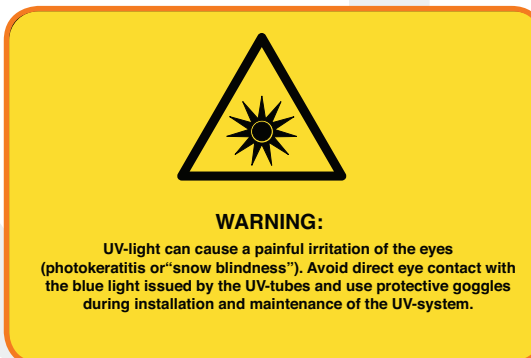


2 x U-profile

1. ZERO+ system, overview

The ZERO+ system consists of:

- 1.1 Power Box (Electronic Box)
- 1.2 Touch Panel
Power Box and Touch Panel are the two parts of the ZERO+ Control System that manages the time of use in service, error messages and maintenance needs.
- 1.3 ZERO+ cassettes
- 1.4 Optional: Mounting bracket for the installation of the ZERO+ cassettes in the exhaust hood.



2 Placement of the ZERO+ components

The ZERO+ Control System must be placed indoors in a well-ventilated room.
Cover the ZERO+ cassettes during installation to protect the UV-tubes from dust and dirt.

2.1 Placement of the Power Box

The Power Box must be placed close to the location where the cassette is installed in the ventilation duct, e.g. above the inner ceiling in a place where it can be reached easily.
See "3. Installation of the Power Box" on pages 6-7 for more information.

2.2 Placement of the Touch Panel

The Touch Panel needs to be checked every day, and it must be placed close to the ZERO+ cassettes. It should be mounted on the wall and on eye level where you can easily check and reach it on a daily basis.
See "4. Mounting of the Touch Panel" on pages 6-7 for more information.

Placement and mounting of the UV-cassettes

2.3 Consult your ventilation drawing and locate where to install ZERO+, which type of UV-cassettes you need and that you have received the right type.

ZERO+ cassettes can be mounted in two different ways:

- with the mounting brackets from UVtech AB. If you have chosen this option and ordered the brackets, you will find them wrapped with the UV-cassette(s);
- without mounting brackets. In this case, consult the mounting instructions provided by the exhaust hood manufacturer.

If you chose the first option, follow the mounting instructions under "5. Mounting of UV-cassettes in a wall mounted hood" on pages 8-9 or under "6. Mounting of UV-cassettes in a center mounted hood" on pages 10-11, respectively.

3 Installation of the Power Box

The electrical installation must adhere to local legislation and must be carried out by a certified electrician. You can find the wiring diagram on page 22.

The mains supply of the Power Box must be equipped with an external safety switch. If the ZERO+ system consists of more than one cassette, you need to install a junction box between the Power Box and the cassettes. The junction box is not part of the standard delivery.

3.1 The Power Box must be installed in an upright position, with the hose pointing upwards (not clearly illustrated by picture 3.1). The Power Box must be placed close to the location where the cassette is installed in the ventilation duct, e.g. above the inner ceiling in a place where it can be reached easily even after the installation process is complete.

3.2 Drill a 6 mm hole into the main exhaust air duct and insert the separate nipple with the cone-shaped end first. The flat end of the nipple is outside of the duct. Fasten the nipple with a screw. Connect the hose to the flat side of the nipple.

3.3 The other end of the hose must be connected to the nipple marked “-” on the pressure switch in the Power Box.

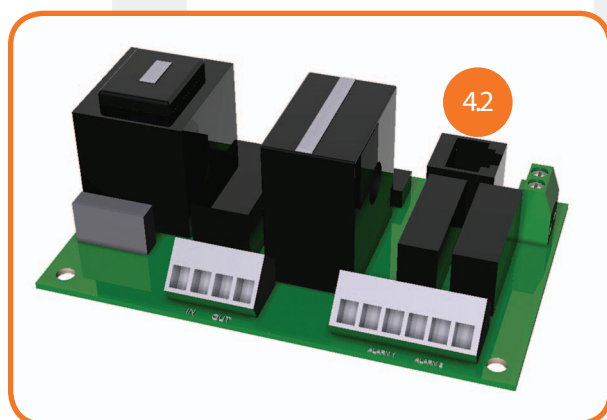
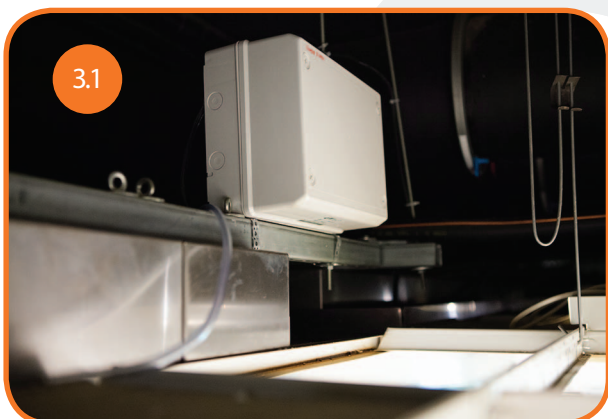
3.4 The incoming electricity must be connected to the IN plinth in the Power Box. The cassettes must be connected to the OUT plinth. If the ZERO+ system consists of more than one cassette, you must connect a junction box to the OUT plinth. All cassettes are then connected to the junction box. Please, note the placement of neutral and phase.

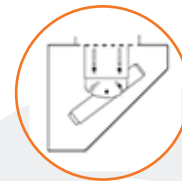
4 Mounting of the Touch Panel

4 The Touch Panel needs to be checked every day, and it must be placed close to the ZERO+ cassettes. It should be mounted on the wall on eye level where you can easily check and reach it on a daily basis.

4.1 Connect the Touch Panel to the data port of the Power Box with a data cable. The data cable, as part of your delivery, has a length of 3m. It can be replaced with a longer cable if necessary, but must not exceed 50m.

4.2





5 Mounting of cassettes in a wall mounted hood

5.1 Unpack and unwrap the UV-cassettes.

5.2 UVtechs mounting brackets consist of two (2) brackets, two (2) positioning plates and two (2) U-profiles per cassette. (If mounting brackets are provided by another supplier, please follow their mounting instructions.)

5.3 Mark the position for the brackets in the plenum. If you have one extraction point, place the UV-cassette centrally, directly below the exhaust spigot point. If you have more than one extraction point, distribute the cassettes as evenly as possible. Make sure that all the extraction points are covered by a cassette.

5.4 Mount the brackets where you have marked the plenum. Attach the positioning plates to the brackets.

5.5 Attach the U-profiles to the positioning plates but do not tighten the screws fully, yet.

5.6 Insert the cassette into the U-profiles. Please, note: Make sure that the mains supply is on the left side when you insert the cassette into the U-profiles. Make sure as well that the cover plate with the rubber plug is facing towards the floor. This is a prerequisite for the integrated pressure switch to function properly. If you need the mains supply on the right side and turn over the cassette, make sure that the cover plate with the rubber plug keeps facing towards the floor. If this cannot be achieved for some reason, continue reading under 5.9.

5.7 Angle the cassette to a 45° angle and tighten the screws joining the positioning plates with the U-profiles.

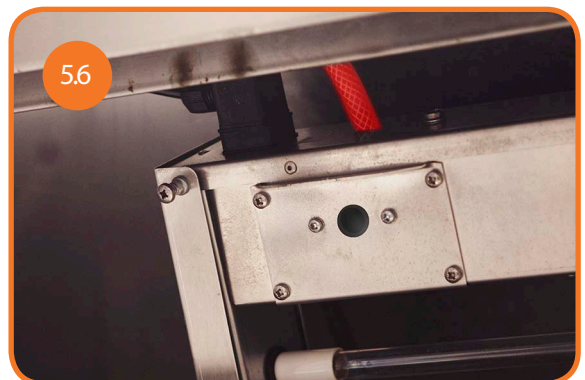
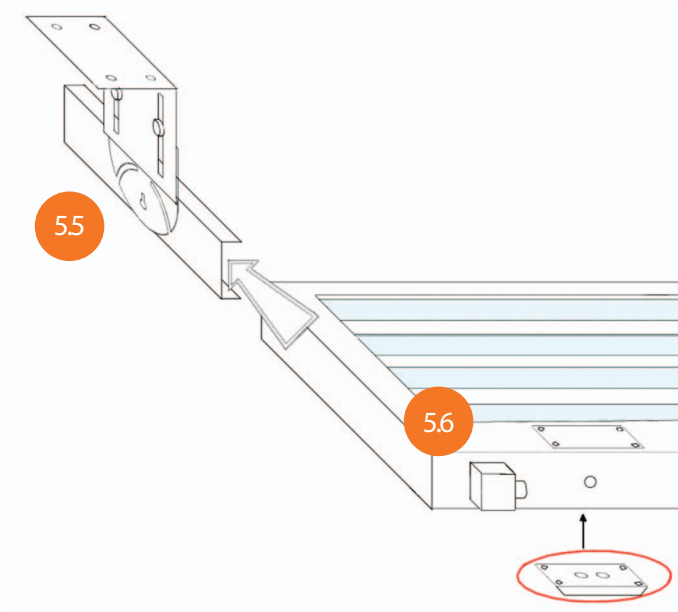
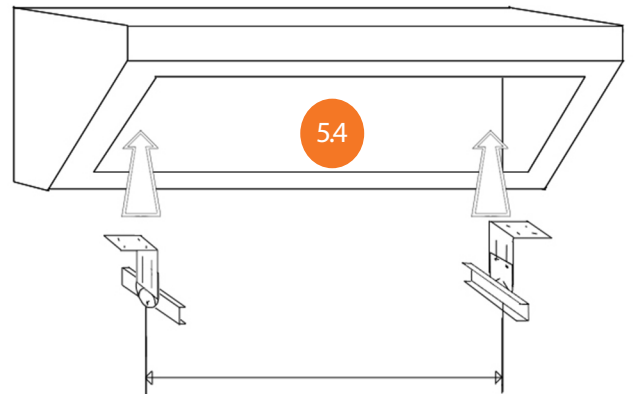
5.8 Every cassette is delivered with a plastic hose and a separate nipple. Attach one end of the hose to the integrated nipple next to the mains supply of the cassette. Attach the other end to the separate nipple that will measure the pressure outside the plenum, preferably above the hood. Drill a 6mm hole into the ceiling of the plenum, insert the nipple and attach the plastic hose.

5.9 For special cases only: If there is no room for the mains supply to be on the right side with the cover plate with the rubber plug facing towards the floor at the same time, you need to adjust the position of the pressure switch: Remove both cover plates (four screws in the corners). Detach the pressure switch from the cover plate (two extra screws in one of the plates). Take out the pressure switch, turn it by 180° around the axis of the plastic nipple and replace it inside the cassette. Reattach both cover plates but note that they have switched places. Now you can turn over the cassette.



WARNING:

UV-light can cause a painful irritation of the eyes (photokeratitis or "snow blindness"). Avoid direct eye contact with the blue light issued by the UV-tubes and use protective goggles during installation and maintenance of the UV-system.





6 Mounting of UV-cassettes in a center mounted hood

6.1 Unpack and unwrap the UV-cassettes.

6.2 UVtechs mounting brackets consist of two (2) brackets, two (2) positioning plates and two (2) U-profiles per cassette. (If mounting brackets are provided by another supplier, please follow their mounting instructions.)

6.3 Mark the position for the brackets in the plenum. Place the UV-cassette centrally, directly below the exhaust spigot point.

6.4 Mount the brackets where you have marked the plenum. Attach the positioning plates to the brackets.

6.5 Attach the U-profiles to the positioning plates but do not tighten the screws properly, yet.

6.6 Insert the cassette into the U-profiles. Make sure as well that the cover plate with the rubber plug is facing towards the floor. This is a prerequisite for the integrated pressure switch to function properly.

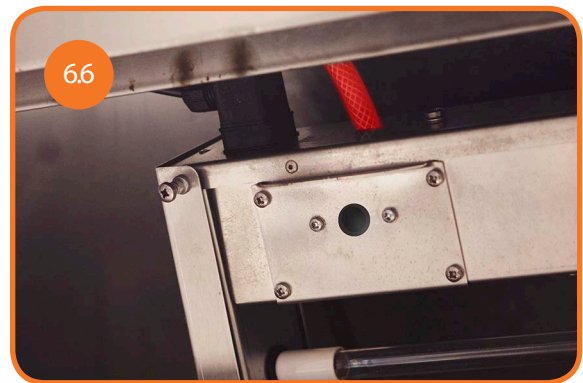
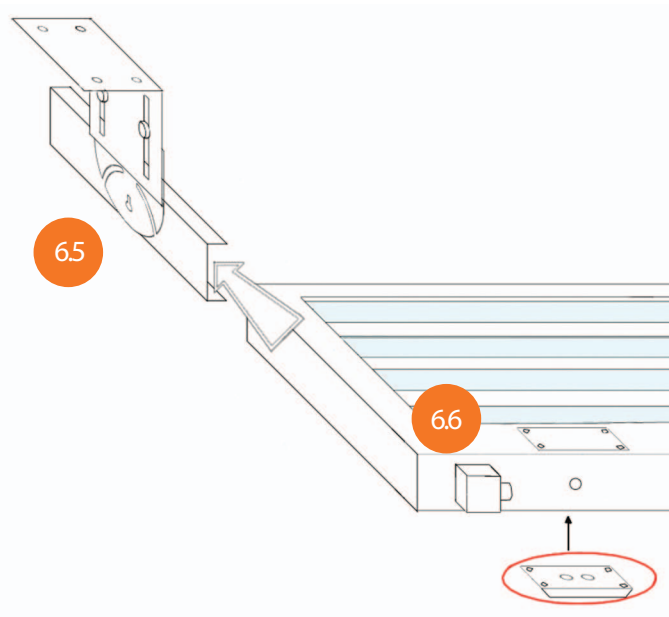
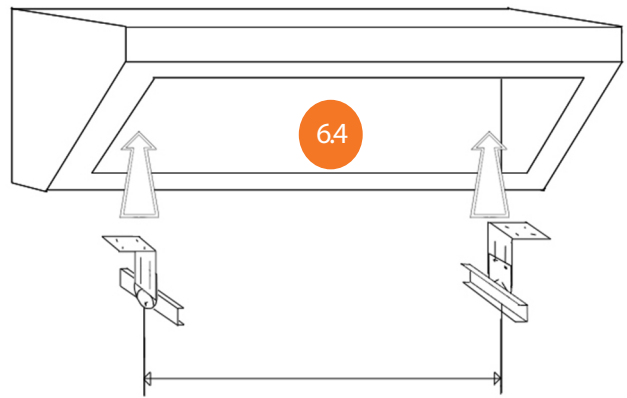
6.6 Make sure that the cassette is in a horizontal position and tighten the screws that join the positioning plates with the U-profiles.

6.7 Every cassette is delivered with a plastic hose and a separate nipple. Attach one end of the hose to the integrated nipple next to the mains supply of the cassette. Attach the other end to the separate nipple that will measure the pressure outside the plenum, preferably above the hood. Drill a 6mm hole into the ceiling of the plenum, insert the nipple and attach the plastic hose.



WARNING:

UV-light can cause a painful irritation of the eyes (photokeratitis or “snow blindness”). Avoid direct eye contact with the blue light issued by the UV-tubes and use protective goggles during installation and maintenance of the UV-system.



7 Initial start-up and calibration

Automatic calibration

7.1

After installing the Power Box, Touch Panel and all ZERO+ cassettes according to the guidelines above, you start the system by pressing the "Start/Stop" button on the Touch Panel. This will automatically initiate a self-calibration process of about 60 minutes during which the different error message functions are calibrated. If the system is switched off during the self-calibration process, it will start again the next time you switch on the system. After the self-calibration, the ZERO+ start-up is complete and the display on the Touch Panel will say "Duty".

7.2

Initiate a self-calibration

You can reset the system and run a new calibration process if necessary.

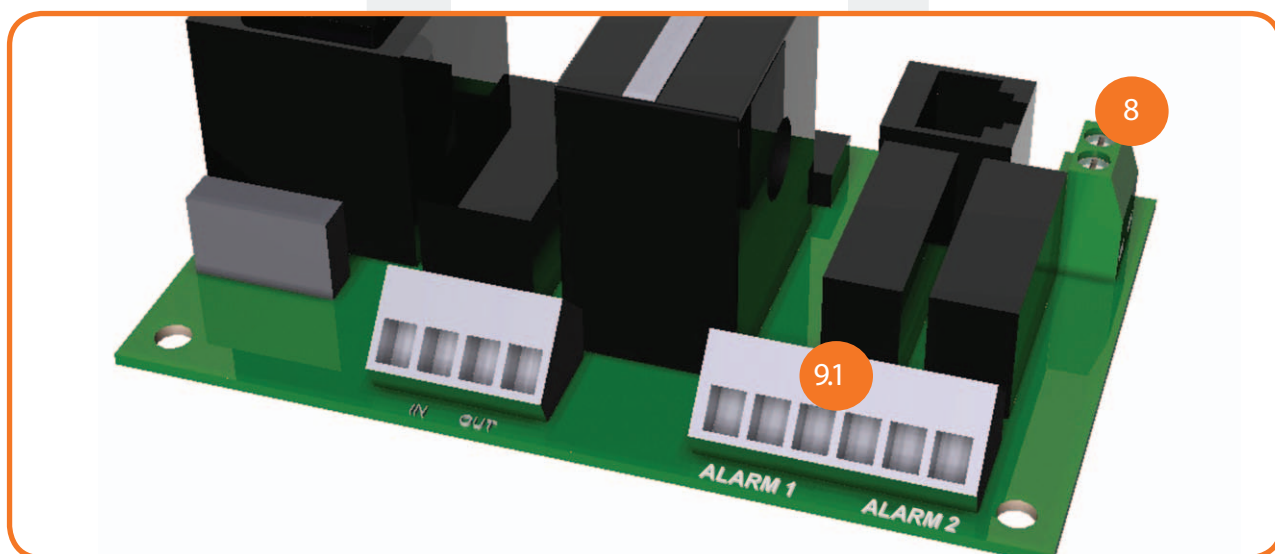
- 1) Press the arrow button three (3) times until the display says "More menus".
- 2) Press and hold the "+" button for five (5) seconds until the display says "Current set".
- 3) Press the arrow button seven (7) times until the display says "Reset".
- 4) Press the "+" button to initiate a new self-calibration process that will last for up to 60 minutes.

8

Installation of optional interlocks

The ZERO+ system does not require interlocks other than the built-in pressure switch to function properly, but can be connected to further optional interlocks, e.g. a filter monitor, if necessary. The external pressure switch is connected to the EXT-plinth in the Power Box. Any further interlock must be connected to the EXT-plinth in series with the pressure switch.

See the wiring diagram on page 22.



9 Forwarding of error messages via NC/NO contact

The control system ZERO+ Control monitors and indicates five different error messages. Four of those can be forwarded to a superordinate monitoring system if necessary. Connect the superordinate system to the NC/NO contacts (ALARM 1 and ALARM 2) in the Power Box.

See the wiring diagram on page 22.

9.1

Choice of error messages to be forwarded

ZERO+ can be programmed to forward either one single or two different error messages to a superordinate system. If you want to forward two error messages, connect that system to both NC/NO contacts (ALARM 1 and ALARM 2). If you want to forward one error message to the superordinate system choose the eligible NC/NO contact (see table below).

Contact	1	2	3
ALARM 1	Dutyerror	Cleaning	Stop ext
ALARM 2	Lamperror	Cleaning	Stop ext

9.2

Programming of one error message to be forwarded

- 1) Connect the cable to an NC/NO contact. Use the table above to check which error messages are eligible for the contacts ALARM 1 and ALARM 2, respectively.
- 2) Press the arrow button three (3) times until the display says "More menus".
- 3) Press and hold the "+" button for five (5) seconds until the display says "Current set".
- 4) Press the arrow button five (5) times until the display says "Function alarm 1 - Dutyerror". The initial programming is for the error message "Dutyerror" to be sent via ALARM 1. There is no need for re-programming if "Dutyerror" is forwarded via ALARM 1.
- 5) Press the "+" button once to forward the error message "Cleaning" via ALARM 1.
- 6) Press the "+" button again to forward the error message "System Stop" via ALARM 1.
- 7) Press the "+" button again to return to forwarding the error message "Dutyerror" via ALARM 1.
- 8) Press the arrow button three (3) times until the display says "Duty".

9

Forwarding of error messages via NC/NO contact (cont.)

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Programming of two error messages to be forwarded

- 1) Connect the cables to both NC/NO contacts.
- 2) Press the arrow button three (3) times until the display says "More menus".
- 3) Press and hold the "+" button for five (5) seconds until the display says "Current set".
- 4) Press the arrow button five (5) times until the display says "Function alarm 1 - Dutyerror". The initial programming is for the error message "Dutyerror" to be sent via ALARM 1. There is no need for re-programming if "Dutyerror" is forwarded via ALARM 1.
- 5) Press the "+" button once to forward the error message "Cleaning" via ALARM 1.
- 6) Press the "+" button again to forward the error message "Stop ext" via ALARM 1.
- 7) Press the "+" button again to return to forwarding the error message "Dutyerror" via ALARM 1.
- 8) Press the arrow button once until the display says "Function alarm 2 - Lamperror". The initial programming is for the error message "Lamperror" to be sent via ALARM 2. There is no need for re-programming if "Lamperror" is forwarded via ALARM 2.
- 9) Press the "+" button once to forward the error message "Cleaning" via ALARM 2.
- 10) Press the "+" button again to forward the error message "Stop ext" via ALARM 2.
- 11) Press the "+" button again to return to forwarding the error message "Lamperror" via ALARM 2.
- 12) Press the arrow button twice until the display says "Duty".

Delay in the forwarding of error messages

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There is a delay between the display of an error message on the Touch Panel and the forwarding of that message to a superordinate monitoring system. On delivery, the delay time is set at 2 hours but can be re-programmed to any time between 6 minutes and 24 hours. To adjust the delay time:

- 1) Press the arrow button three (3) times until the display says "More menus".
- 2) Press and hold the "+" button for 25 seconds. Please, note: Continue to hold the button when the display changes for the first time after about 5 seconds! After 25 seconds, the display says "Time alarm on x,x h".
- 3) Change the delay time using the buttons "+" and "-".
- 4) Press the arrow button four (4) times until the display says "Duty".

Deletion of forwarded error messages

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After the error message "Dutyerror" was forwarded to a superordinate system you delete it there by cutting the mains supply of ZERO+ Control. The other error messages are automatically erased in the superordinate system when they have been deleted on the Touch Panel.

11

Adjustment of the calibrated current values

If the automatic self-calibration has failed or the circumstances for the ZERO+ system have changed since the last self-calibration process the calibrated current value must be adjusted. This can be done manually or automatically.

11.1

Manual adjustment of the calibrated current values

- 1) Press the arrow button three (3) times until the display says "More menus".
- 2) Press and hold the "+" button for (5) seconds until the display says "Current set x,x A y,y A".
- 3) When all the UV-tubes in the ZERO+ system are lit, the two current values on the display must be identical. If the values differ from one another, use the "+" och "-" buttons to adjust the calibrated value (on the right) until both values are identical.
- 4) Press the arrow button eight (8) times until the display says "Duty".

11.2

Automatic adjustment of the calibrated current value

- 1) Press the arrow button three (3) times until the display says "More menus".
- 2) Press and hold the "+" button for (5) seconds until the display says "Current set x,x A y,y A".
- 3) Press the arrow button seven (7) times until the display says "Reset push plus".
- 4) Press the "+" button. The system will now initiate an automatic self-calibration process that can last up to 60 minutes.

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Adjustment of error levels

12.1

Adjustment of the lamp error level

The error message "Lamperror" is displayed when one or more UV-tubes have gone out and the operating current level has sunk below 95 % of the calibrated value. The error level can be changed to another percentage than 95 %:

- 1) Press the arrow button three (3) times until the display says "More menues".
- 2) Press and hold the "+" button for (5) seconds until the display says "Current set x,x A y,y A".
- 3) Press the arrow button once until the display says "Level tube error". Use the "+" or "-" buttons to change the % value.
- 4) Press the arrow button seven (7) times until the display says "Duty".

12.2

Adjustment of the duty error level

The error message "Lamperror" is displayed when one or more UV-tubes have gone out and the operating current level has sunk below 90 % of the calibrated value. The error level can be changed to another percentage than 90 %:

- 1) Press the arrow button three (3) times until the display says "More menues".
- 2) Press and hold the "+" button for (5) seconds until the display says "Current set x,x A y,y A".
- 3) Press the arrow button twice until the display says "Level duty error". Use the "+" och "-" buttons to change the % value.
- 4) Press the arrow button six (6) times until the display says "Duty".

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Language choice

The Touch Panel operates in six different languages: Swedish, English, German, French, Finnish and Italian. If you want to change to a different language but Swedish:

- 1) Press the arrow button once until the display says "Svenska tryck +".
- 2) Press the "+" button to choose English.
- 3) If you want another language than English, continue to press the "+" button until you have reached the language of your choice.
- 4) Press the arrow button five (5) or six (6) times until the display says "Duty". (The arrow button must be pressed six (6) times if the error message "Clean interval xx h" has been activated and, not yet, reset (as in 14.2 Cleaning of UV-tubes, 7) and 8)). Otherwise, press the arrow button only five (5) times.)



WARNING:

UV-light can cause a painful irritation of the eyes (photokeratitis or "snow blindness"). Avoid direct eye contact with the blue light issued by the UV-tubes and use protective goggles during installation and maintenance of the UV-system.

14 Operation and maintenance instructions

14.1 Cleaning interval

The UV-tubes need cleaning regularly in order to optimize the efficiency of the ZERO+ system. In a commercial kitchen, the tubes should be cleaned once a fortnight. The Touch Panel indicates the need for UV-tube cleaning. The factory setting for the cleaning interval is 200 service hours, which is generally equivalent with a fortnight. After cleaning the UV-tubes, you need to reset the cleaning interval: See "14.2 Cleaning of UV-tubes" below.

You can increase or reduce the cleaning interval, according to your needs:

- 1) Press the arrow button four (4) times until the display says "Clean interval + to incr."
- 2) Use the "+" and "-" buttons to adjust the cleaning interval.
- 3) Press the arrow button once or twice until the display says "Duty". (The arrow button must be pressed twice if the error message "Clean interval xx h" has been activated and, not yet, reset (as in 13.2 Cleaning of UV-tubes, 7) and 8). Otherwise, press the arrow button only once.)
The 60-minute self-calibration is a prerequisite for the adjustment of the cleaning interval.

14.2 Cleaning of UV-tubes

- 1) Press the "Start/Stop" button on the Touch Panel to stop the ZERO+ system. The display should say "No duty" now.
- 2) Remove the grease filters from the plenum.
- 3) Wipe the UV-tubes clean carefully with a moist cloth. Please, note: Avoid touching the UV-tubes with your bare fingers. Finger prints can cause the UV-tubes to become dirty again more quickly.
- 4) If the UV-tubes do not become entirely clean, spray them with a detergent with a high pH value (pH 10-13) and let them soak for about a minute. Remove all of the detergent with a moist cloth.
- 5) Replace the grease filters.
- 6) Press the "Start/Stop" button to restart the ZERO+ system. The display says "Duty" again.
- 7) Press the arrow button five (5) times until the display says "Reset after clean press +".
- 8) Press the "+" button.

14.3 Exchange interval for UV-tubes

The UV-tubes have a service life of 12.000 hours or 2 years, depending on which time period elapses first. You can check on the Touch Panel how many hours of service life remain until the UV-tubes need changing.

The Touch Panels indicates two alarm/error messages:

- "Change lamp xxh": The factory setting for this message to appear on the display for the first time is a remaining total of 1000 hours of service life. When you see the message, contact your supplier to arrange for an exchange of UV-tubes.
- "Change lamp hours left xx h": The factory setting for this message to appear on the display for the first time is a remaining total of 300 hours of service life. The error message will be followed by a sound signal. Exchange the UV-tubes.

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Operation and maintenance instruction (cont.)

14.4

Checking the remaining service life hours

- 1) Press the arrow button twice until the display says "Dutytime hours left xx h". The number indicates the remaining service life hours.
- 2) Press the arrow button four (4) or five (5) times until the display says "Duty". (The arrow button must be pressed five (5) times if the error message "Clean interval xx h" has been activated and, not yet, reset (as in 13.2 Cleaning of UV-tubes). Otherwise, press the arrow button only four (4) times.)

14.5

Exchange of UV-tubes

- 1) Press the "Start/Stop" button on the Touch Panel to stop the ZERO+ system. The display should say "No duty" now.
- 2) Remove the grease filters from the plenum.
- 3) Remove the UV-tubes from the ZERO+ the cassette by pressing the tube to the right side of the cassette. The contact on the right side is equipped with a spring that, when fully compressed, releases the UV-tube from its contact on the opposite (left) side.
- 4) Exchange all the rubber gaskets.
- 5) Place new rubber gaskets and new UV-tubes in the ZERO+ cassette. Please, note: Avoid touching the UV-tubes with your bare fingers. Finger prints can cause the UV-tubes to become dirty again more quickly.
- 6) Replace the grease filters.
- 7) Press the "Start/Stop" button to restart the ZERO+ system. The display says "Duty" again.
- 8) Now the ZERO+ system needs to be reset: Press the arrow button three (3) times until the display says "More menus".
- 9) Press and hold the "+" button for five (5) seconds until the display says "Current set".
- 10) Press the arrow button seven (7) times until the display says "Reset push plus".
- 11) Press the "+" button.

The ZERO+ system is reset to a remaining total of 12.000 hours of service life.

14.6

Recycling of UV-tubes

Attention! UV-tubes contain mercury and are classified as hazardous waste. They must be disposed of at a licensed waste disposal service. This is valid for pieces of broken UV-tubes as well.

During transportation, the UV-tubes need to be treated as dangerous goods.



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Error messages

The ZERO+ Control Touch Panel indicates the following five (5) alarm and error messages. For more detailed information and suggested solutions, see the "ZERO+ Error Message Chart" on page 22.

15.1

Alarm message "Clean interval"

The UV-tubes need cleaning.

15.2

Error message "Lamperror"

One or several UV-tubes are not functioning properly for some reason.

15.3

Error message "Dutyerror contact service"

Several UV-tubes are not functioning properly for some reason.

15.4

Error message "Stop ext"

The pressure switch in the Power Box has made contact and switched of the ZERO+ system. Alternatively, an optional interlock connected to the ZERO+ system has been tripped.

15.5

Alaram message "Change lamp xx h"

The service life of the UV-tubes is coming to an end:

When 1000 hours of service life remain, the display says "Change lamp xx h".

When less than 300 hours of service life remain, the display says "Change lamp hours left xx h".

When the service life has run out, the control system ZERO+ Control automatically switches of the UV-system, and the display says "System stop contact service".

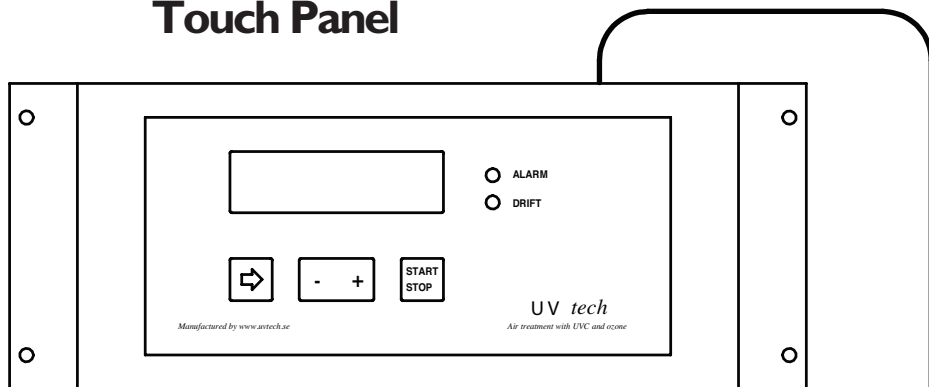
ZERO+ Error Message Chart

Warning: Use protective goggles against UV-light in order to avoid photokeratitis or "snow blindness". Switch of the DUCT system before maintenance inside the ventilation duct in order to avoid hazardous ozone levels.

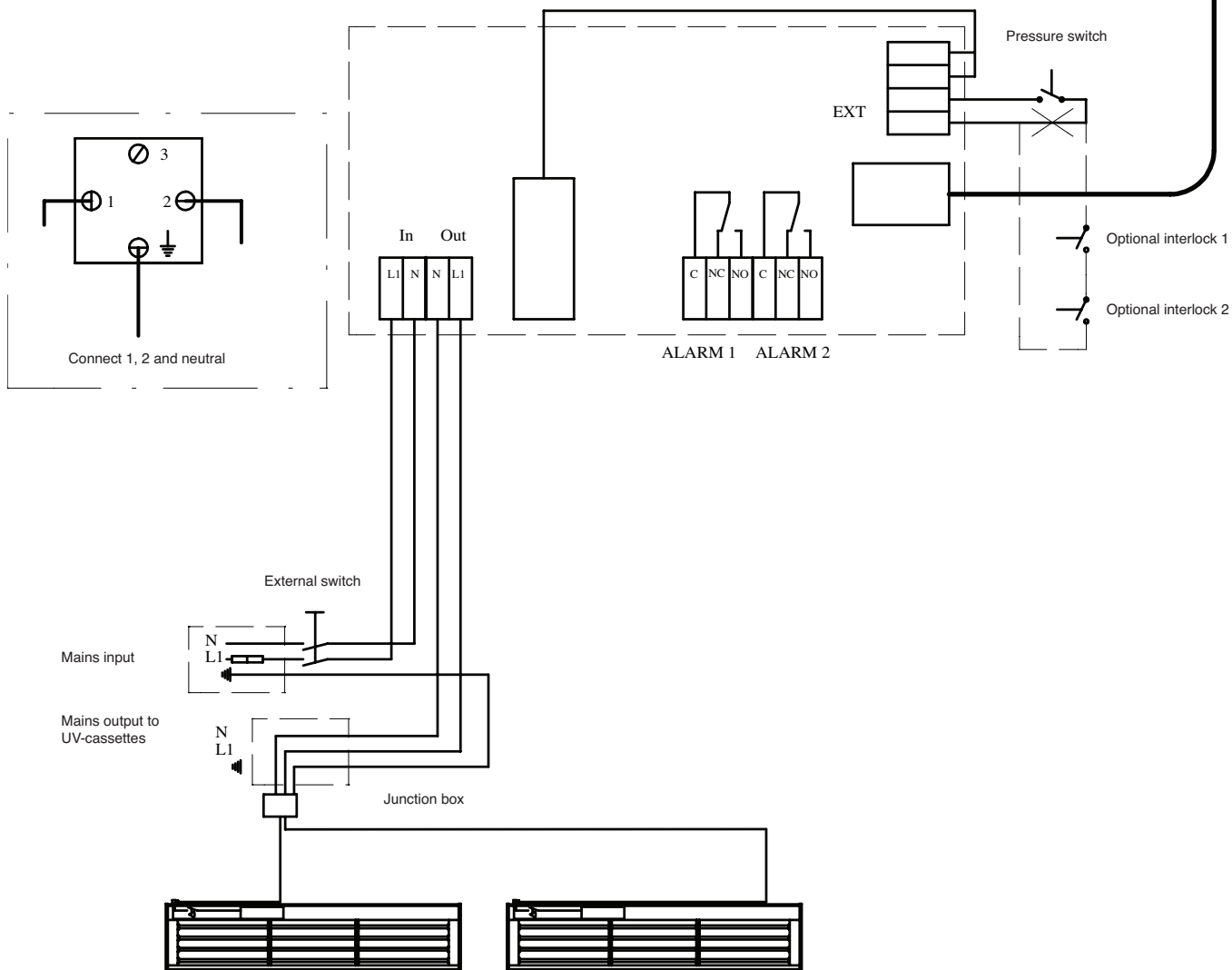
Touch Panel display message		Cause		Solution	
1	"Duty" changes to "Clean interval". Green diode is lit. Red diode blinks slowly.	A	It is time to clean the UV-tubes.	I.	Clean the UV-tubes. Follow the instructions under 14.2 on p.17.
2	"Duty" changes to "Stop ext". Green diode blinks fast.	A	The exhaust fan is not on.	I.	Switch on the fan, let it gain momentum and check if the error message disappears.
		B	The pressure switch in the Power Box is not installed properly.	I.	Make sure that the plastic hose is connected to the front nipple marked "-", not the nipple marked "+". Check that the hose is properly connected to the exhaust duct: the cone-shaped side of the nipple must be on the inside of the duct, and the fit between nipple and hose must be air-tight.
		C	The pressure switch in the Power Box does not function properly.	I.	Detach the transparent plastic cover of the pressure switch in the Power Box. Turn the little screw anti-clockwise until the pressure switch clicks.
		D	The pressure switch in the Power Box is defective.	I.	If the measures above have not rectified the problem, the pressure switch might be defective and needs to be exchanged.
3	"Duty" changes to "Lamperror". Green diode is lit. Red diode blinks fast.	A	One or more UV-tubes are defective.	I.	Change the UV-tubes. If the UV-tubes are not lit after the exchange, one or more ballast(s) in the cassette(s) is/are defective and need(s) to be exchanged.
4	"Duty" changes to "Dutyerror, contact service". Green diode is lit. Red diode is lit.	A	The pressure switch on one or more UV-cassettes is defective.	I.	Check that the pressure switch(es) in the cassette(s) are in the right position and connected properly. (See points 5.6 to 5.9 on p. 8.)
				II.	If point I. have not rectified the problem, you need to check the pressure above the grease filters. The pressure switch in the UV-cassette(s) engages at 15-18 Pa. If the pressure is below 20 Pa it needs to be increased, most easily by exchanging grease filters with blinding plates.
		B.	Several UV-tubes are defective.	I.	Change the UV-tubes. If the UV-tubes are not lit after the exchange, one or more of the ballast(s) in the cassette(s) is/are defective and need(s) to be exchanged.
5	"Duty" changes to "Change lamp xx h". Green diode is lit. Red diode blinks slowly.	A	1000 hours (or less) of service life are left and the UV-tubes need to be exchanged soon.	I.	Arrange for an exchange of the UV-tubes with your supplier.
6	"Duty" skiftar till "Change lamp hours left xx h". Green diode is lit. Red diode blinks fast.	A	300 hours (or less) of service life are left and the UV-tubes need to be exchanged.	I.	Change the UV-tubes. Follow the instructions under 14.5 on page 18.
7	"Duty" changes to "System stop". Green diode is off. Red diode is lit. Sound signal every minute.	A.	The UV-tubes have reached the end of their service life, and the system has shut down automatically.	I.	Change the UV-tubes. Follow the instructions under 14.5 on page 18.
8	The Touch Panel says "Duty" but the UV-tubes are not lit.	A.	Because of several on/off in a short period of time, the safety shutdown was activated.	I.	Start the system and wait for up to 4 minutes until the safety shutdown is de-activated and the mains feed is released again.

ZERO+ Control Wiring Diagram

Touch Panel



Power Box (Electronic Box)



Touch Panel Navigation

