

## Ne<sup>xt</sup>: Description and Functions of the Control Element

### General information

This information is primarily intended for Ne<sup>xt</sup> users. We assume that the device and any additional ventilation components have been installed and commissioned by a specialist. We also assume that it is known which ventilation units or additional components have been installed and where and how they are connected.



The Ne<sup>xt</sup> is an ultra-modern ventilation unit which can provide almost constant air conditioning in the application area without user intervention. Fully automatic functions for humidity regulation enable simple and extremely effective ventilation, which no longer needs to be influenced by manual intervention by the user.

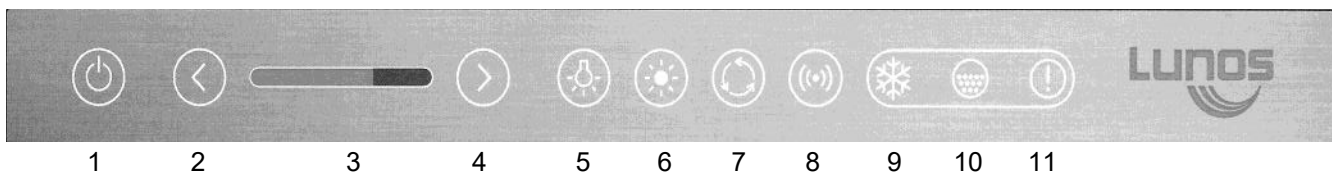
For example, a sensor-based automatic mode can be activated, which optimally controls the ventilation and regulates the air supply on the basis of room air and outdoor air values. All necessary parameters are recorded and processed. The Ne<sup>xt</sup> automatically controls or regulates the necessary air volume flow and adapts to the existing conditions. The correct volume flow is always selected automatically to avoid increased humidity values.

All functions are designed in such a way that the necessary volume flow of fresh air can be guaranteed and minimum energy consumption is always achieved.

The following versions refer to devices with firmware 0.96. You can find out whether a new firmware is available at [www.lunos.de](http://www.lunos.de).

LUNOS regularly provides new versions of the firmware, some of which bring program improvements or even provide new functions for the Ne<sup>xt</sup>.

### Description



1	ON/OFF	Key and display
2	Volume flow rate smaller	Key
3	Volume flow stage	Display
4	Volume flow rate greater	Key
5	Setting the display brightness	Key and display
6	Summer ventilation	Key and display
7	Automatic mode	Key and display
8	Interconnection of radio components*.**	Key and display
9	Warning display frost protection mode	Display
10	Filter change indicator	Display
11	Fault indication	Display

\* only required when using one of the optionally available EnOcean and / or WiFi modules.

\*\* with the current firmware version 0.96 without function, can be activated at a later time by update

### Operation and functions

#### Switching the device on and off

Button 1 switches the Ne<sup>xt</sup> on and off. If the unit is switched on, a short self-test is performed during which all LEDs light up briefly.

#### Setting the flow rate

The manual volume flow regulation is carried out via key 2 to reduce the volume flow and key 4 to increase the volume flow. The volume flow can be infinitely adjusted to the requirements via the available eight stages.

The active stage is indicated by display element 3. One illuminated dot stands for one stage.

#### Regulation of brightness

The illumination of the control element can be switched on or adjusted by means of key 5. The brightness of the LEDs can be adjusted via eight levels. The brightness is adjusted on a rolling basis, i.e. the brightness is increased by one level per key press up to the maximum brightness. A further push of the button switches the lighting off. The next press of button 5 switches the lighting back on at the lowest brightness level and can be increased further from here.

The respective brightness level is indicated on the display element 3 for 5s.

#### Summer ventilation

The summer ventilation can be activated via key 6 in conjunction with keys 2 and 4. This function makes it possible to simulate a so-called "summer bypass". This enables the Ne<sup>xt</sup> to bring fresh air into the home from outside without heat transfer. During the summer months, for example, this function can be activated at night to cool the apartment with fresh air.

Pressing button 6 in conjunction with button 4 for 10 seconds sets the Ne<sup>xt</sup> to pure extract air operation. In this way, the Ne<sup>xt</sup> transports the warm, used room air to the outside and fresh, cool outside air flows in via an open window or an optional ALD.

If another Ne<sup>xt</sup> unit is installed in a residential unit, this unit can be switched to pure supply air operation for 10 seconds by pressing buttons 6 and 2. The two units then ensure that the apartment is cooled down in the ventilation system even when the windows are closed.

#### Frost protection mode

Permanent illumination of display 9 signals activated frost protection operation. If a room air temperature of less than or equal to 8°C is measured, the Ne<sup>xt</sup> switches off automatically. Ventilation operation is only resumed when the room temperature measured is greater than or equal to 15°C. The Ne<sup>xt</sup> will not switch off automatically until the room temperature measured is greater than or equal to 15°C. This is to prevent subcooling of the housing unit, which could also damage the heating system.

To protect the unit and avoid excessively low supply air temperatures, the Ne<sup>xt</sup> switches itself off when the measured outdoor temperature is less than or equal to -15°C. The Ne<sup>xt</sup> is also switched off when the outdoor temperature is too low. If there is an electrical damper closure, the unit will not close it so that a further measurement of the outside temperature can take place. In this case, draughts are avoided by design. If a temperature of over -15°C is measured at the supply air sensor, the unit resumes ventilation operation.

In the latter case, an active ventilation mode can be forced by manually switching the ventilation stage. However, this should be avoided to protect the device and is documented in the device. In both cases described, the warning indicator Frost protection mode 9 lights up permanently.

### Extended functions

#### Define minimum and maximum volume flow in automatic mode

In the as-delivered state, the automatic mode is virtually infinitely variable between stage 1 and stage 4. This operating range can be freely adapted. To do this, simply select the desired volume flow using the keys for manual volume flow setting 2 and 4 and confirm by pressing and holding key 2 for the minimum volume flow or key 4 for the maximum volume flow for five seconds.

While one of the keys is held down, key 8 lights up every second. After 5 seconds, keys 2 and 4 light up three times and signal successful storage.

#### Control medium 0-10 V Control signal

The electronics of the Ne<sup>xt</sup> offers the possibility to connect an external controller to the device ex works. This can be useful if a central control of several devices is to be implemented, if the Ne<sup>xt</sup> is to be controlled via a room air quality sensor (e.g. 5/VOC-FT) or if it is to be linked to a third-party home automation solution.

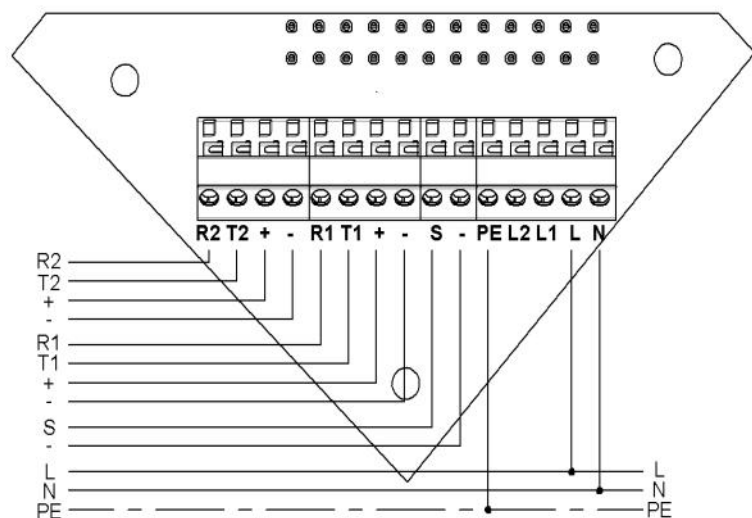
For this purpose, the 0-10 V control signal is connected to terminals S and -. A cable of type J-Y(St)Y (2x2x0.8) is recommended.

The 0-5 V range is used for 8-stage control of the heat recovery operation, i.e. both fans run and both exhaust and supply air are conveyed simultaneously.

The voltage range 5-10V controls the alternative ventilation mode of the Ne<sup>xt</sup>. During the alternative ventilation mode only one motor of the Ne<sup>xt</sup> is running. The active motor is determined by the dip switch behind the inner panel. If the switch is set to position 3 ON (below), the unit will only supply air, if the switch is set to OFF (above), the unit will only supply exhaust air. (See installation instructions Ne<sup>xt</sup> module E298).

If two Ne<sup>xt</sup> units with different settings on position 3 of the DIP switch are connected to a common central controller such as the TAC or Smart Comfort and summer ventilation mode, effective cross ventilation without heat recovery can be achieved.

Manual switching is still possible during external control of the Ne<sup>xt</sup>. However, switching actions are limited to a validity period of 1 hour. The Ne<sup>xt</sup> is then controlled again by a 0-10 V signal.



### Protective functions and notes

#### Humidity-operated automatic mode

Button 7 activates or deactivates the humidity-controlled automatic mode. When humidity-controlled operation is activated, key 7 lights up permanently and goes out when deactivated.

Manual changes to the volume flow stage via keys 2 and 4 are only valid for one hour during automatic operation. The Ne<sup>xt</sup> then takes over the fully automatic adjustment of the volume flow again.

The Ne<sup>xt</sup> is supplied as standard with eight sensors to enable optimum adjustment of the flow rate to local conditions. There are one humidity and one temperature sensor each in the supply air and in the exhaust air upstream and downstream of the heat exchanger.

This arrangement enables the Ne<sup>xt</sup> to independently decide when and how much to ventilate. By balancing the humidity content of the room air (exhaust air) and the outside air (supply air), it is decided whether increased ventilation makes sense. This is only the case if the moisture content within the housing unit can be reduced as a result. In this way it is avoided that with high humidity outside, for example during the summer months, the humidity in the rooms is still increased by "wrong" ventilation.

When the automatic mode is activated and it is determined that the humidity outside is greater than the humidity in the room, the Ne<sup>xt</sup> automatically switches back to a barely perceptible basic ventilation level in order to ensure minimal air exchange.

If the indoor humidity is greater than the outdoor humidity, the Ne<sup>xt</sup> switches to the next higher ventilation level within the housing unit at a relative humidity of 40 % (factory setting). This is further increased depending on the relative humidity. This ensures - as quietly as possible - that the moisture content is reduced as quickly as possible. The highest ventilation level is achieved at a relative humidity greater than or equal to 75 % (factory setting).

#### Filter change indicator

Permanent illumination of the display 10 indicates a necessary filter change. Both the

The Ne<sup>xt</sup> can be replaced by changing both the supply air filter and the exhaust air filter to ensure proper operation of the Ne<sup>xt</sup>. Once the filter has been changed, the filter change indicator is activated via the reset button behind the inner screen.

is reset. To do this, completely remove the cover and press the button for 5-10 seconds. Three red flashes of the LED confirm the filter reset.

