

## NLII-iVOC | Combined sensor VOC/RH

Room sensor NLII-iVOC is used to continuously monitor air quality inside buildings and then control ventilation (HVAC) systems according to current levels of air pollution. The sensor measures the concentration of gaseous organic substances in the air (VOC) and relative humidity (RH) of air. The sensor can be effectively used in offices, classrooms, restaurants, kitchens, fitness centres, commercial facilities etc.

- > measures VOC and RH
- > close to the human perception of odors
- > compatibility with CO<sub>2</sub> standard
- > 2x analog voltage/current output
- > 2x output relay - 2x NO/C
- > option for cascade relay switching



Type of sensor	iVOC output	RH output	Relay
NLII-iVOC	0-10 V/0-20 mA/4-20 mA <sup>1)</sup>	-	-
NLII-iVOC-R	0-10 V/0-20 mA/4-20 mA <sup>1)</sup>	-	1x NO/C/NC
NLII-iVOC+RH	0-10 V/0-20 mA/4-20 mA <sup>1)</sup>	0-10 V/0-20 mA/4-20 mA <sup>1)</sup>	-
NLII-iVOC+RH-R	0-10 V/0-20 mA/4-20 mA <sup>1)</sup>	0-10 V/0-20 mA/4-20 mA <sup>1)</sup>	2x NO/C

<sup>1)</sup> It is possible to select by jumper desired type of analog output. Minimum achievable output value corresponds to minimum value of the measuring range.

Built-in advanced iVOC sensor is sensitive to volatile organic substances typically contained in the stuffy air - gaseous products of human metabolism and other gaseous pollutants such as formaldehyde, cooking vapors, fumes from paints, varnishes, adhesives, detergents, etc. that CO<sub>2</sub> sensor does not detect. NL-iVOC sensor detects those gaseous pollutant substances in the air that are the main reason for ventilation. Sensor NL-iVOC approximates to human perception of air quality. The output of the sensor is calibrated as equivalent to a standard CO<sub>2</sub> sensor with range 450 – 2000ppm.

Measurement of the relative humidity is based on the principle of capacitive polymer sensor.

The sensor has built-in two separate analog outputs - one for the actual concentration of VOC and the other for the current relative humidity.

If the sensor contains 2 relays, it can be set to two switching modes: standard (each relay switches according to its assigned quantity), a cascade mode (both relays switch according to one selected quantity and each one can be set to different switching level).

Cascade switching, for example, can be used to two-step switching of ventilation units output power. Relay trigger levels can be set independently by two rotary elements.

So the sensor efficiently manages ventilation and heat recovery units, based on current room air quality. The current air quality can easily be determined by looking at the three LED indicators.

The **eco** level means good indoor air quality necessary to achieve a sense of well-being and at the same time optimal energy costs for heating, ventilation or air conditioning.

Explanation of abbreviations and technical terms can be found on our website in the [Glossary](#) section.



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Parameter	Value	Unit
Supply voltage range	12 – 35 12 – 24	V DC V AC
Average consumption	0,5	W
iVOC measuring range <sup>1)</sup>	450 – 2000	ppm
iVOC relay - hysteresis	100	ppm
RH measuring range	0 – 100 %	RH
RH accuracy 20 – 80 %	± 3 %	RH
RH accuracy 0 – 100 %	± 6 %	RH
RH switching hysteresis	5 %	RH
Max. switching voltage	250/30	V AC / V DC
Max. switching current	5/5	A AC / A DC
Working humidity no condensing	5 – 95 %	RH
Working temperature	0 to +50	°C
Storage temperature	-20 to +50	°C
Expected lifetime	min. 10	years
Ingress protection	IP20	
Dimensions	90x80x31	mm
<sup>1)</sup> iVOC ppm equivalent to CO <sub>2</sub> ppm		

