PROTRONIX
SENSE & EASY

NLII-iVOC+RH+T-IQRF | Combined VOC/RH/T sensor with IQRF

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

〉 measures VOC, RH and temperature
〉 compatibility with CO_2 standard
〉 2x analog voltage/current output
〉 communication over IQRF network

Type of sensor / order code	CO_2 output	RH output	T output [2]	IQRF module
NLII-IVOC+RH+T-IQRF	0-10 V/0-20 mA/4-20 mA[1]	0-10 V/0-20 mA/4-20 mA[1]	-	-
NLII-IVOC+RH+T-IQRF+	0-10 V/0-20 mA/4-20 mA[1]	0-10 V/0-20 mA/4-20 mA[1]	-	*

[1]   It is possible to select the desired type of analog output by a jumper. Minimum achievable output value corresponds to minimum value of the measuring range.

[2]   Temperature output is available only via IQRF interface.

Built-in advanced iVOC sensor is sensitive to volatile organic substances typically contained in 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_2 sensor does not detect. NL-iVOC sensor detects those gaseous pollutant substances 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_2 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. Temperature output is available only via IQRF interface.

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.
For detailed information about IQRF, use the document NLII-IQRF-Communication. For information on the communication protocol, use the document NLII-Modbus-Communication.

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 [1]	450 – 2000	ppm
RH measuring range	0 – 100 %	RH
RH accuracy 20 – 80 %	± 3 %	RH
RH accuracy 0 – 100 %	± 6 %	RH
T measuring range	0 – 50	°C
T accuracy	± 0,4	°C
Output [2]	0-10 V / 0-20 mA / 4-20 mA	
Working humidity non condensing	0 – 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

[1]   iVOC ppm equivalent to CO_2 ppm
[2]   It is possible to select the desired type of analog output by a jumper.
Minimum achievable output value corresponds to minimum value of the measuring range.