

NLII-CO2+RH+T-5-RS485 | Room CO₂/RH/T sensor with RS485

Room sensor NLII-CO2 is used to continuously monitor air quality inside buildings and then control ventilation (HVAC) systems according to current levels of internal air quality. The sensor measures concentration of carbon dioxide (CO₂), relative humidity (RH) and temperature (T). It can be effectively used in offices, classrooms, shopping centers, homes, restaurants, fitness centers, commercial buildings, etc.

- > measures CO₂, RH and temperature
- > RS485 bus communication with Modbus RTU protocol
- > maintenance during operation is not required



Sensor type / Order code	CO ₂ measurement	RH measurement	T measurement	CO ₂ ppm range
NLII-CO2-5-RS485	✓	-	-	400-5000
NLII-CO2+RH+T-RS485	✓	✓	✓	400-2000
NLII-CO2+RH+T-5-RS485	✓	✓	✓	400-5000

The measuring of CO₂ is based on the principle of infrared radiation attenuation dependence on the CO₂ concentration in the air (NDIR). Built-in auto-calibration function ensures very good long term stability.

Measurement of the relative humidity is based on the principle of capacitive polymer sensor. Sensor can efficiently manage ventilation and heat recovery units, based on current 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.

All outputs of measurement are available through RS485 bus. 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.

Parameter	Value	Unit
Supply voltage range	12 – 35	V DC
	12 – 24	V AC
Average consumption	0,5	W
CO ₂ measuring range	400 – 2000 (5000)	ppm
CO ₂ accuracy	± 35 ppm ±5 % of reading	
CO ₂ startup	max 1	min
CO ₂ step response	(90 %) 80	s
RH measuring range	0 – 100 %	RH
RH accuracy 20 – 80 %	± 3 %	RH
RH accuracy 0 – 100 %	± 6 %	RH
Working humidity non condensing	0 – 95 %	RH
Working temperature	0 to +50	°C
Storage temperature	-20 to +60	°C
Expected lifetime	min. 10	years
Ingress protection	IP20	
Dimensions	90x80x31	mm
RS485 bus		
A-B voltage difference	max 5	V
A-B common input voltage	-7 to 12	V
A-B common output voltage	max 3	V

