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PROTRONIX NLB-CO2+RH+T-5-SX Battery Sensor with Sigfox User Manual

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Contents

Combined CO2/RH/T battery sensor with SIGFOX

Sensor 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 carbon dioxide (CO_2),

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
- Communication via wireless SIGFOX technology
- Maintenance during operation is not required

Description

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 relative humidity is based on the principle of capacitive polymer sensor.
CO2, RH and temperature outputs are available **via SIGFOX communication.** Sensor can efficiently manage ventilation and heat recovery units, based on current air quality.
The current battery state can easily be determined by looking at the LED indicator.
For detailed information about **IQRF,** use the document **NLB-Sigfox-Communication.**

Explanation of abbreviations and technical terms can be found on our website in the **Glossary** section.

Technical data

Parameter	Value	Unit
Power supply – 2xAA	1,5	V
Battery life	24	months
CO_2 measuring range[1]	400 – 2000/5000	ppm
CO_2 accuracy	± 35 ppm ±5 % of reading	
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
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
Communication period	adjustable	minutes

[1] The range 2000/5000 ppm of CO is user selectable.

CO2 sensor autocalibration function

Autocalibration compensates for long-term aging of the key components of the sensor. This function is available only when sensor power supply is continuous and uninterrupted. Calibration during operation is not necessary.

LED indication description

- **Turning sensor on:**
  After turning the sensor on, the measurement period in minutes will be indicated.
- **First 10 broadcast:**
  First 10 broadcasts will be indicated with series of three flashes.
- **Battery under 20%:**
  If there is less than 20% energy remaining, LED will indicate this state with flashing once an hour, after broadcasting the data.
- **Battery under 5%:**
  If there is less than 5% energy remaining, LED will indicate this state with flash after every data broadcast.

CAUTION:
It is necessary to avoid severe mechanical shock of the sensor.

Sensor assembly

Box color

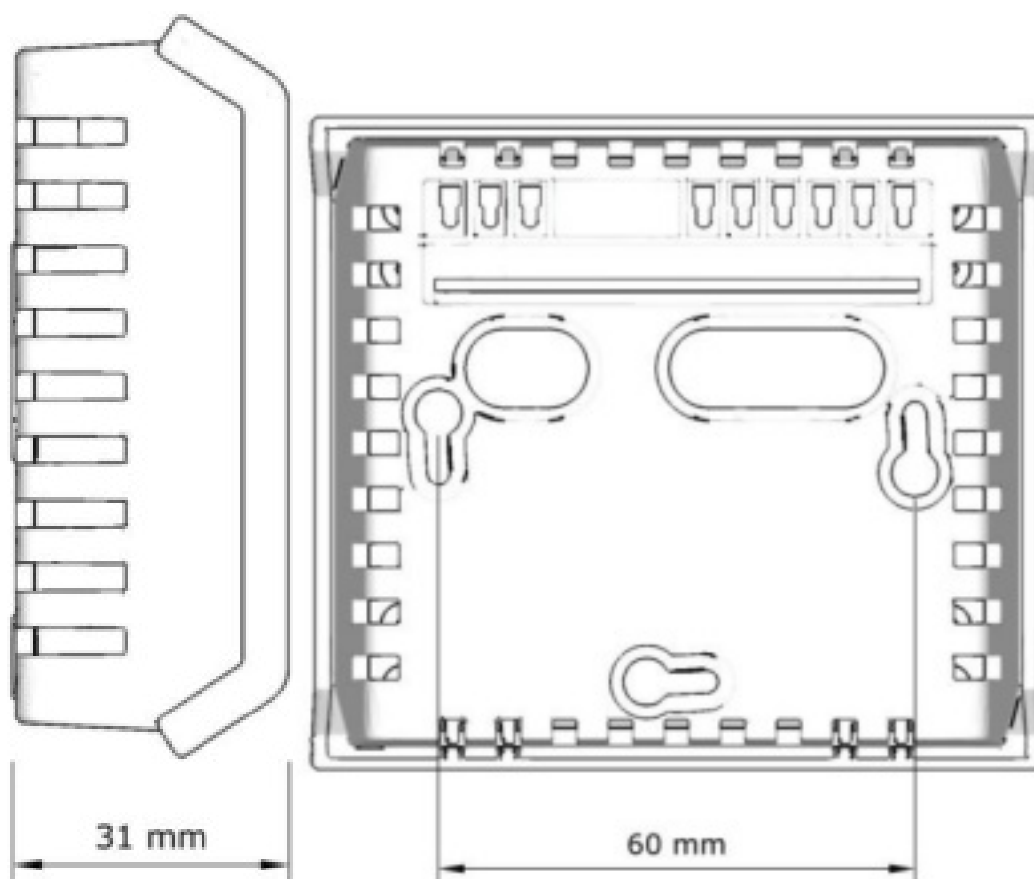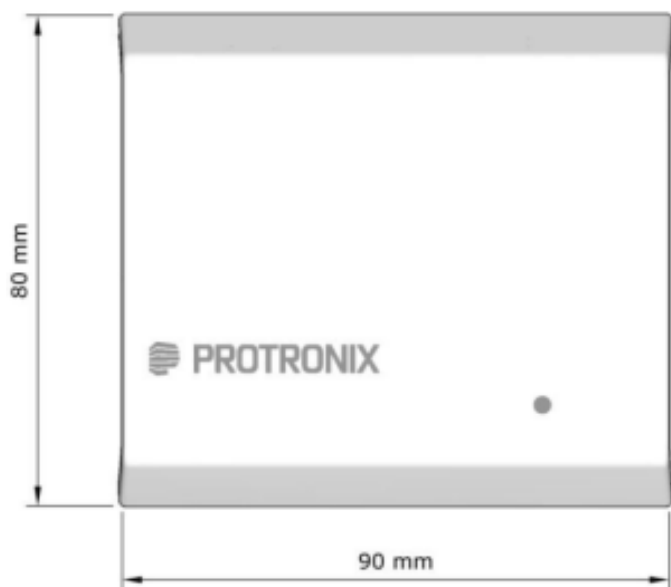**Front: white** – RAL9016
Base: gray – RAL7035

Way to use

The product is intended for indoor use only. You can read the recommendations for sensor placement on our web pages.

End of product life

Discard the product in according to the electronic waste law and the EU directives.

Dimensions

The producer reserves the right of technical changes in order to product improvements its properties and functions without previous notice.

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www.protronix.cz/en/

www.careforair.eu/en/

Documents / Resources

PROTRONIX NLB-CO2+RH+T-5-SX Battery Sensor with Sigfox [pdf] User Manual
NLB-CO2 RH T-5-SX, Battery Sensor with Sigfox