Nordic Propeye

OY1210 LoRaWAN® CO2 meter

LoRaWAN® sensor measuring temperature, humidity and CO2, with a maintenance free lifetime of 5 years at a 20-minute reporting interval. Easy to use, configurable over the air and stylish in design to fit into indoor spaces. Supports adaptive reporting functionality to detect rapid changes in CO2 levels.

COVID-19 & CO2 air quality monitoring

With its adaptive reporting functionality, the OY1210 LoRaWAN® is the go-to sensor when it comes to COVID-19 monitoring in indoor environments. CO2 levels give an indication of the air quality, as CO2 is a residue of human breathing. If levels are high, productivity and well-being drops, while the risk of airborne spreading of diseases increases.
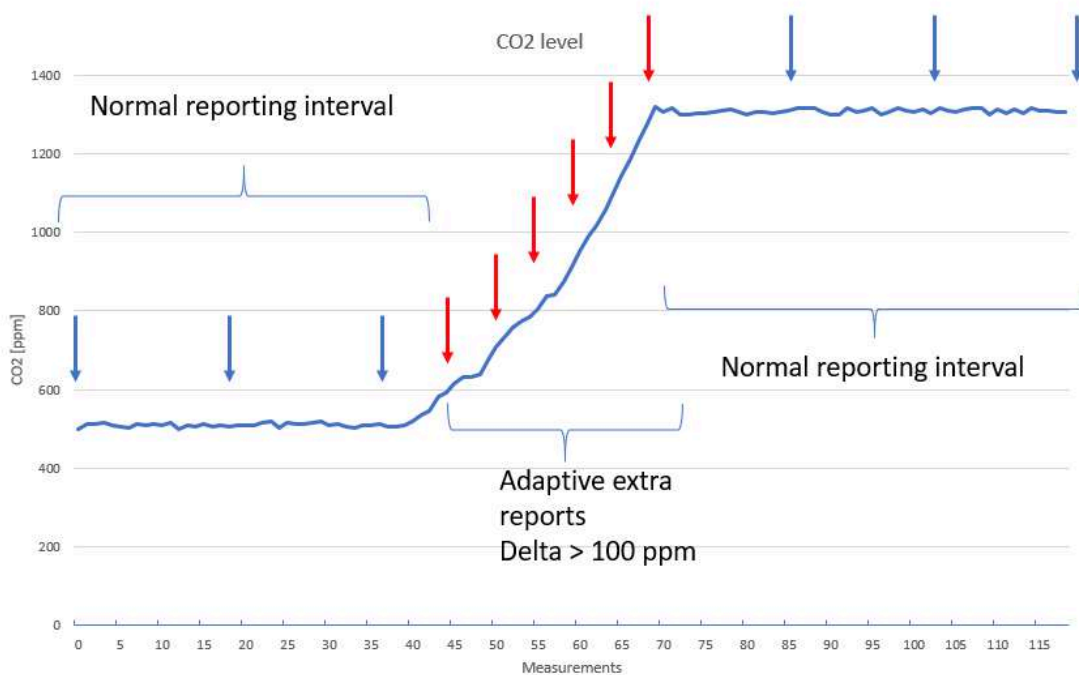
HVAC optimization

The OY1210 LoRaWAN® CO2 meter is designed for optimization of HVAC systems. Measurement data of temperature, humidity and carbon dioxide levels forms the basis for demand-driven HVAC steering, where the building's heating, ventilation and cooling are activated only when necessary. This results in better air quality, as you will not find any rooms under ventilated, which increases health, productivity and comfort. On top of that, the solution typically results in energy savings between 10% and 30%, making for a strong financial and sustainability argument

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Adaptive data reporting functionality

Talkpool's OY1210 LoRaWAN® CO2 meter comes with a function that is unique on the market: adaptive data reporting. This functionality makes the sensor report directly when a rapid increase in CO2 levels is detected. This low latency is crucial when a meeting room or classroom suddenly fills up with people and air quality diminishes.

Operating principle	
Non-dispersive infrared (NDIR)	Yes
Sample method	Diffusion
Accuracy and range	
Temperature accuracy	± 0,2 °C (conditions 0 °C to +50 °C)
Temperature range	-20 °C to +60 °C
Humidity accuracy	± 2% (conditions 10-90% RH)
Humidity range	0% to 100% non-condensing
Measurement range CO_2	400 – 5000 ppm
Accuracy CO_2	±30ppm ±3% of reading
RMS noise CO_2	0.7ppm @ 400ppm
	1.4ppm @2000ppm (filtered)
Accuracy of ± 0,1 °C and ± 1,5% humidity available upon request	

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Connectivity

Network	LoRaWAN®
Frequency bands	868 MHz
Provisioning	Over the air & personalization

Size

Size	111 x 77 x 26 mm
Weight	136g

Security

Algorithms	AES-128
Hardware	Cryptographic co-processor
Features	Secure boot
	Secure firmware upgrade

Hardware based ultra-secure key storage

Battery life

Battery life length	>5 years (at 20 minute intervals, SF12)
Battery type	2x Lithium-thionyl 3.6V (replaceable)
Capacity	3.6Ah

Configuration

Measurement intervals	1 minute, configurable over the air
Transmission intervals	20 minutes, configurable over the air
Adaptive reporting	Extra transmission for CO_2 level changes >100ppm

Unique App EUI available upon request

Enclosure

IP30

Certifications

RoHS compliant

CE

LoRaWAN®

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Order Product Numbers (OPN)

Version	OPN
OY1210 LoRaWAN® CO2 meter EU868	TP-T1210-000-1-EU
OY1211 LoRaWAN® CO2 meter US915	TP-T1211-000-1-US

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Nordic Propeye stands for smart, sustainable choices. We have made it our mission to help our customer to make their real estate and condominiums lean, clean & green.