

OY1211 LoRaWAN[®] CO2 meter US915

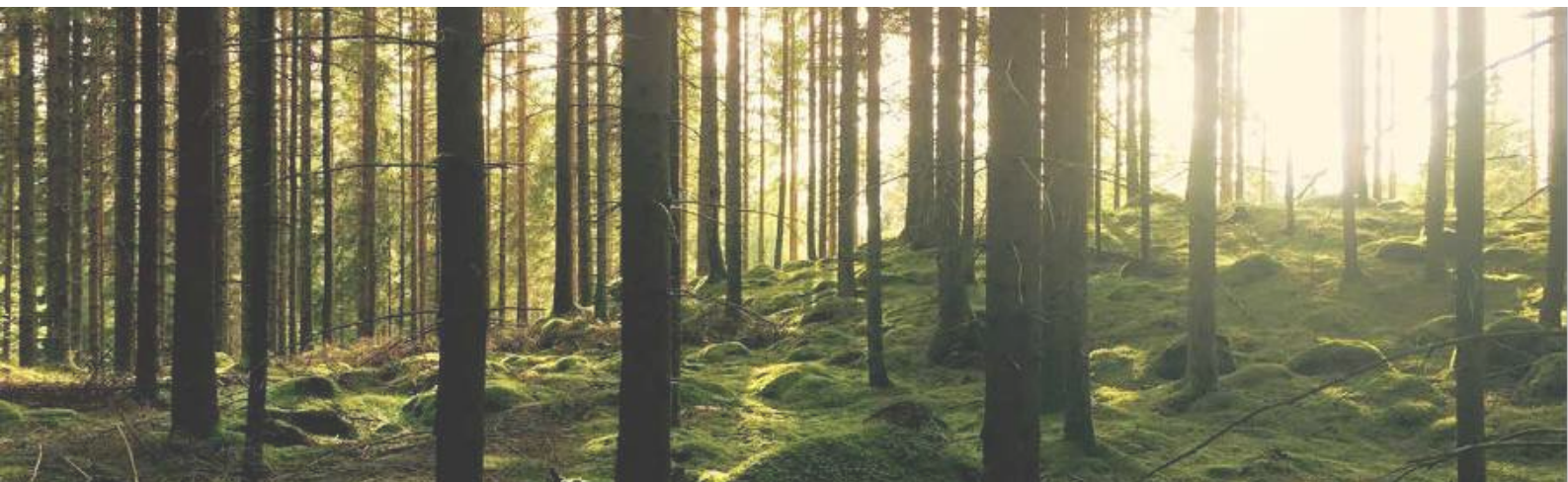
LoRaWAN[®] sensor measuring temperature, humidity and CO2, with a maintenance free lifetime of 5 years at a 20-minute reporting interval. Designed for US915 frequency plans. Supports adaptive reporting functionality to detect rapid changes in CO2 levels.

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

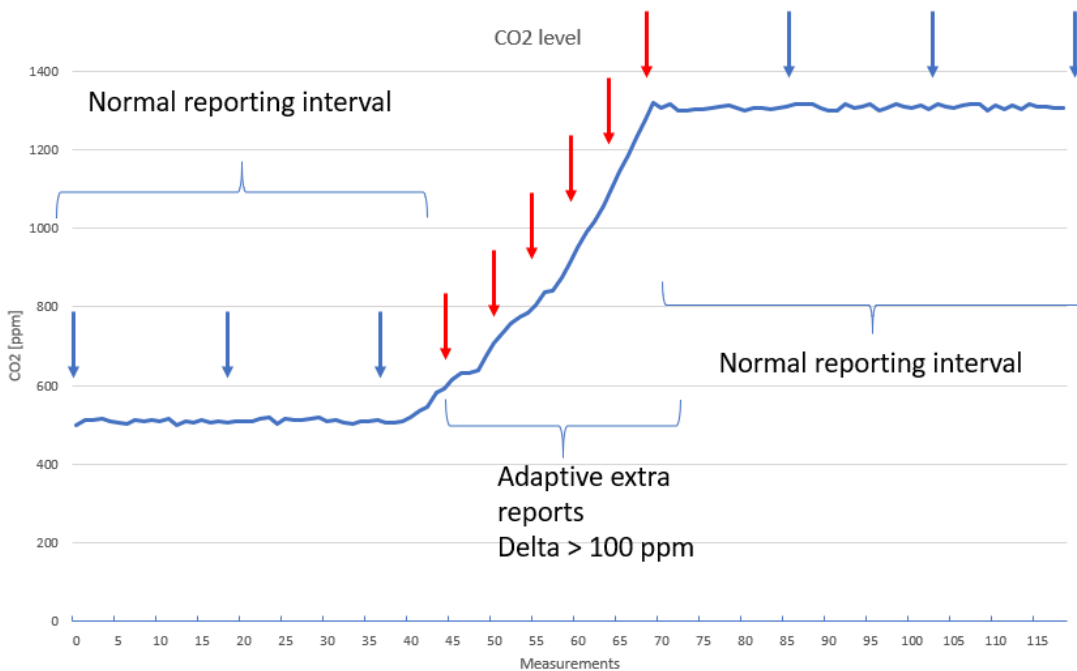
The OY1210 LoRaWAN[®] CO2 meter is designed for optimization of HVAC systems. Measurement data of temperature, humidity and carbon dioxide levels forms the basis for demand-driven HVAC steering, where the building's heating, ventilation and cooling are activated only when necessary. This results in better 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
<i>Hardware based ultra-secure key storage</i>	
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
<i>Unique App EUI available upon request</i>	
Enclosure	
IP30	
Certifications	
RoHS compliant	
FCC	
LoRaWAN®	

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Order Product Numbers (OPN)

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

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