

# ENVIRONMENT AND SLEEP QUALITY MONITOR



QoR-Quality of Rest

## ENVIRONMENT AND SLEEP QUALITY MONITOR

Monitor the air quality and sleep quality. The IDT-QR-IO1 is an environmental monitor that allows for the simultaneous measurement of up to 5 types of gases and particles, providing real-time data on air quality.

### Data visualization

All collected data can be visualized and analyzed anytime and anywhere through the corresponding web platform, allowing continuous and detailed monitoring.

This monitor stands out for its ability to provide relevant information on air quality and sleep, complying with the relevant regulations to ensure data quality.



Measures temperature, humidity, CO<sub>2</sub>, formaldehyde (CH<sub>2</sub>O), TVOC, PM<sub>2.5</sub>, and PM<sub>10</sub>, ensuring a comprehensive analysis of your space.



Access measurement information provided by the sensor, enabling you to make informed decisions about the air quality and sleep quality of the guest.



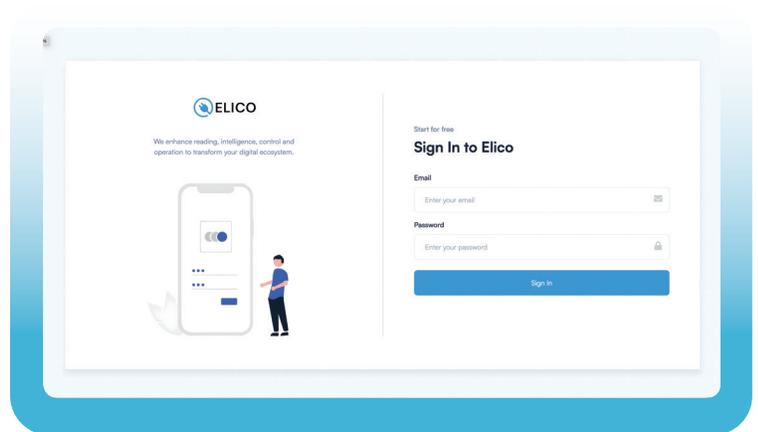
Compatible with LoRaWAN and Wi-Fi, enabling seamless data transmission.



Features a 60 GHz millimeter-wave radar to detect breathing and heart rate, providing an accurate assessment of sleep quality.

# Sensor data access and monitoring

ELICO, our proprietary digital platform, delivers real-time, customizable access to data collected from sensors. It enables seamless monitoring across multiple devices and locations while providing in-depth analytics. The platform also enhances decision-making by identifying historical trends and patterns for better insights. Additionally, ELICO simplifies device integration with a QR-based onboarding system, allowing users to quickly add new sensors and expand their monitoring network effortlessly.



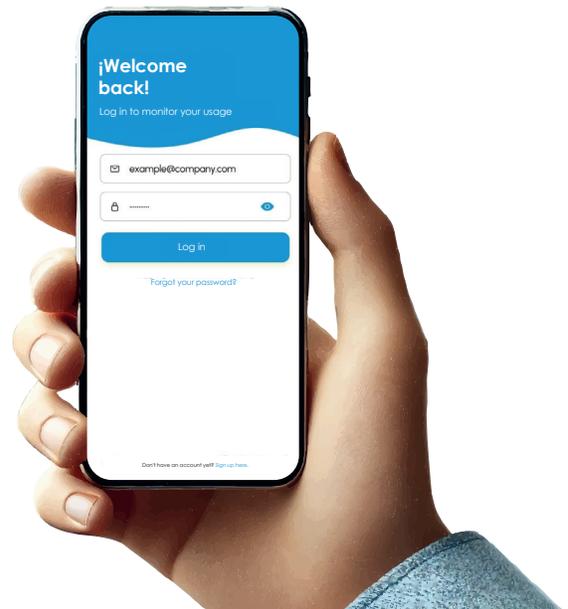
Three mobile app screens showing different sensor data visualizations. The first screen shows "PM 2.5 Particles" with a gauge reading 88 ppm. The second screen shows a list of various environmental parameters like "Env. Temperature", "Env. Humidity", etc. The third screen shows "Env. Temperature" with a gauge reading 31.7 °C. Below these screens is a blue banner with the text: "Graphical Representation of Data Trends by Time Period" and "The graphs show historical data points, highlighting variations and patterns for detailed analysis".

A mobile app screen showing a "Carbon Dioxide" data trend graph. The graph plots CO2 levels in ppm over time, with a y-axis from 7 ppm to 500 ppm and an x-axis showing dates from 2/10/2020 to 2/16/2020. The graph shows a fluctuating line with a blue shaded area underneath. Below the graph is the text: "Device Management" and "View and manage all connected devices from ELICO interface".

## ELICO APP

Stay Connected Anytime, Anywhere

Access ELICO seamlessly from your mobile device, ensuring real-time visibility into sensor data no matter where you are. Monitor key parameters, receive instant updates, and manage devices effortlessly from your smartphone, keeping your operations running smoothly at all times.





Total time sleep



Percentage of waking time



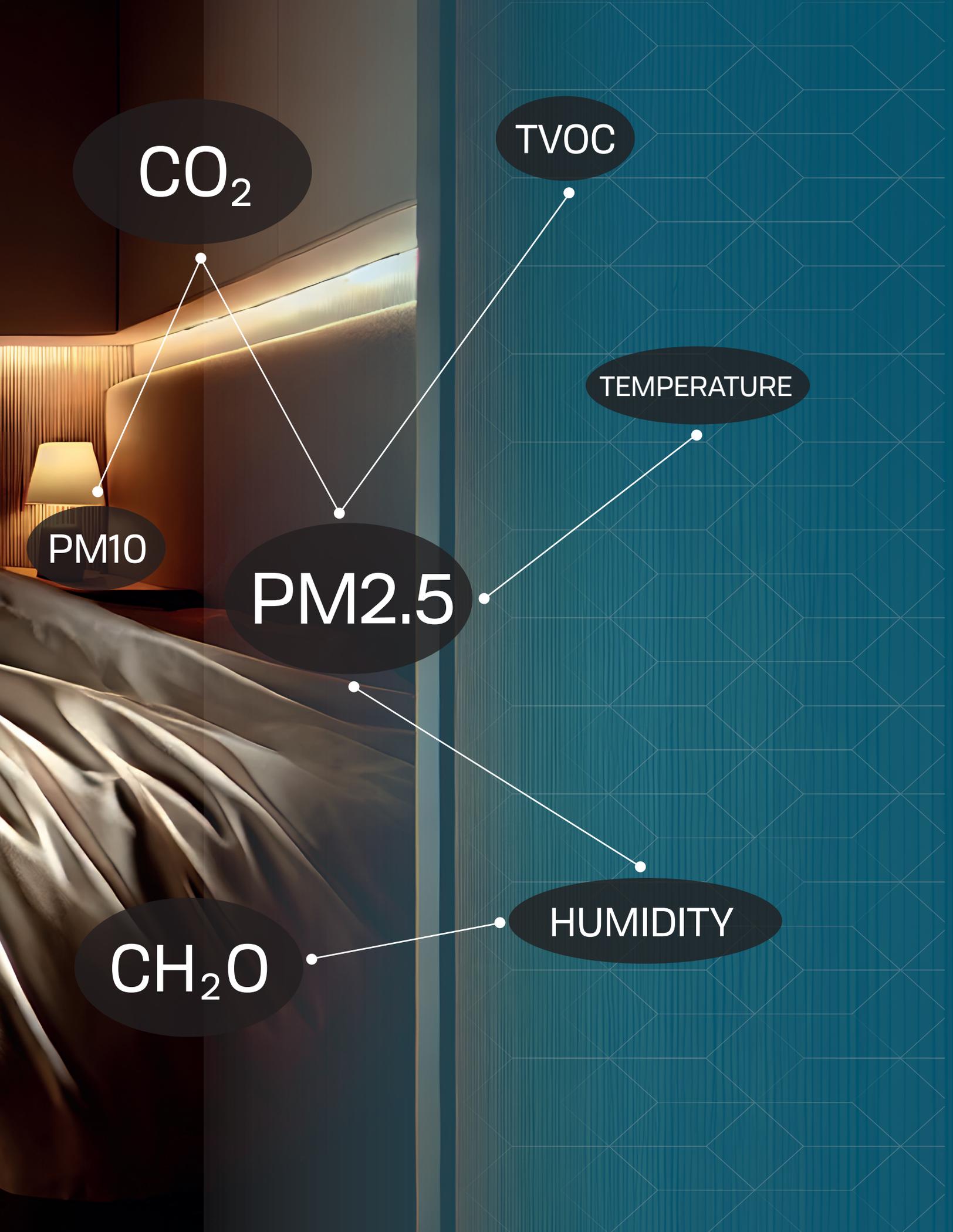
Number of apnea



- Rem (Deep Sleep)  
- No rem (Light Sleep)



- Heartbeat rate  
- Breathing rate



CO<sub>2</sub>

TVOC

TEMPERATURE

PM10

PM2.5

HUMIDITY

CH<sub>2</sub>O

# Breathing clean is living healthy

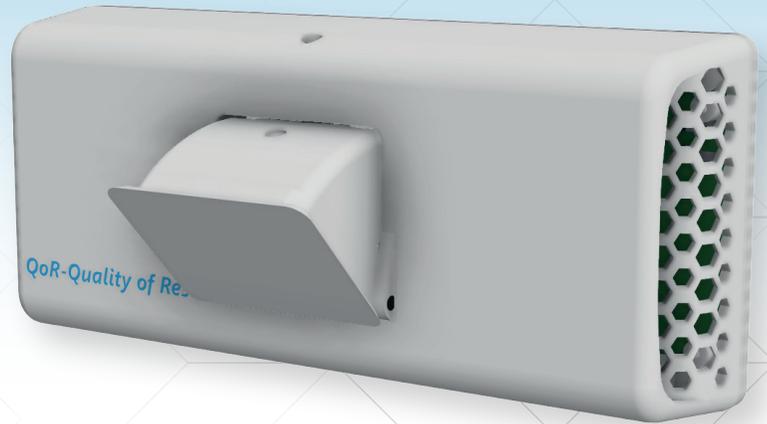


## Air Quality Ranges for Common Pollutants

Pollutant Gas	 Normal Range	 Medium Range	 Danger Range	Effects of Prolonged Exposure
CO <sub>2</sub>	350-1,000 ppm (ideal)	1,000-2,000 ppm (acceptable)	>1,000 ppm (poor quality)	Headache, fatigue, breathing difficulties
Formaldehyde (CH <sub>2</sub> O)	<0.08 ppm)	0.08-0.1 ppm	>0.1 ppm (harmful)	Eye, nose, throat irritation; carcinogenic effects
TVOC	<0.3 mg/m <sup>3</sup>	0.3-0.6 mg/m <sup>3</sup>	>0.6 mg/m <sup>3</sup> (risk)	Respiratory irritation, nausea
PM <sub>2.5</sub>	0-12 µg/m <sup>3</sup>	12-35 µg/m <sup>3</sup>	>35 µg/m <sup>3</sup> (harmful)	Damage to respiratory airways
PM <sub>10</sub>	0-50 µg/m <sup>3</sup>	50-100 µg/m <sup>3</sup>	>100 µg/m <sup>3</sup> (harmful)	Chronic respiratory problems

# IDT-QR-I01

Environmental and sleep quality monitor



## Especifications

### Parameters

#### Temperature measurement

Range	40° C ~ 80° C
Accuracy	± 0.5 °C
Resolution	0.1 °C

#### Humidity measurement

Range	0 ~ 100% RH
Accuracy	± 2% RH
Resolution	0.1% RH

#### CO<sub>2</sub> measurement

Range	400 ppm ~ 5000 ppm
Accuracy	±3% + 50 ppm or ± 10%
Resolution	0.1% RH

#### Measurement of CH<sub>2</sub>O (Formaldehyde)

Range	0 µg/m <sup>3</sup> ~ 2000 µg/m <sup>3</sup>
Accuracy	±10%
Resolution	0.1% RH

#### Measurement TVOC

Range	0 µg/m <sup>3</sup> ~ 5000 µg/m <sup>3</sup>
Accuracy	± 25%
Resolution	1 µg/m <sup>3</sup>

#### Measurement PM2.5

Range	0 µg/m <sup>3</sup> ~ 999 µg/m <sup>3</sup>
Accuracy	±10% or ±10
Resolution	1 µg/m <sup>3</sup>

#### Measurement PM10

Range	0 µg/m <sup>3</sup> ~ 1000 µg/m <sup>3</sup>
Accuracy	±10% or ±10
Resolution	1 µg/m <sup>3</sup>

#### General parameters

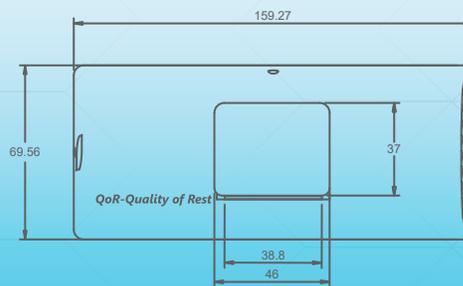
Connectivity	LoraWAN
Supported protocol	Class C
Transmission power	MAX 19dBm
Sensibility	-116 dBm
Communication distance	2 to 5 Km (depending on the gateway antenna and gateway and environment)
Data upload interval	Configurable
Power supply	9v - 24v, 500 1A

### Sleep Quality Parameters

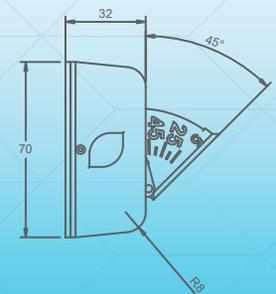
Technology and Functionality	Description
Radar frequency	Based on 60 GHz millimeter-wave radar
Main detection	Designed to detect respiration and heartbeat, as well as to assess sleep quality and sleep status
Motion detection	Human presence

## Dimensions

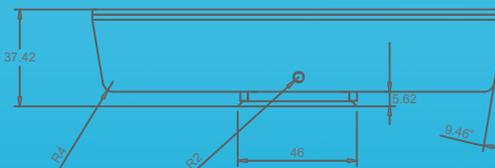
Front view



Side view



Top view



Isometric view



All measures in mm

Enhances  
comfort and  
well-being in  
homes and  
hotels

Creates  
healthier  
recovery  
spaces

Fosters a  
comfortable  
working  
environments

Breathe  
better

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