AJAX

LifeQuality Jeweller

Smart air quality detector. Runs automation scenarios when the set temperature, humidity, and CO_2 concentration thresholds are exceeded.

An Ajax hub is required for operation.

Key features

Detailed statistics of indicators in the Ajax apps

Automation scenarios by CO_2 level, temperature, and humidity

Notification of indicators exceeding the set limits

LED indication of the CO_2 level

Up to 2,5 years of operation from pre-installed batteries

Easy wall or ceiling mounting with SmartBracket mounting panel

Remote control and configuring via the Ajax apps

Adding to the system via QR code

Device for maximized productivity

High air quality is the key to productive work, good health, and healthy sleep. LifeQuality provides comprehensive CO_2 concentration, temperature, and humidity information through Ajax apps. This allows you to understand whether the microclimate in the room is optimal and what exactly you should improve if not.

How CO_2 affects productivity

Level of CO_2 concentration

200 ppm	**up to 450 ppm** Average outdoor level of CO_2 (carbon dioxide) concentration [1]
400 ppm	
600 ppm	**451-1000 pmm** Acceptable indoor level of CO_2 (carbon dioxide) concentration Does not affect cognitive ability [1]
800 ppm	
1000 ppm	**1001-1399 ppm** Causes eye irritation, sore/dry throat, stuffy/congested/runny nose, sneezing, coughing Decreases concentration [2]
1200 ppm	
1400 ppm	**1400-1999 ppm** Causes headache, dizziness, tiredness Adverse health effects expected by prolonged exposure [2]
1600 ppm	
2000 ppm	**2000-2499 ppm** Causes wheeze, dry throat, difficulty concentrating Increases risks for health expected by prolonged exposure [2]
2200 ppm	
2400 ppm	**2500+ ppm** The substantial reductions in decision-making performance [3]
2600 ppm	

Part of a comprehensive system

In the Ajax apps, an installer sets the temperature, humidity, and CO2 concentration thresholds to run automation scenarios. Users will enjoy high-quality air in the room thanks to the LifeQuality in combination with automation devices from Ajax, supply systems, humidifiers, and air conditioning.

The detector is suitable for any room. You can offer it as a solution for offices, industrial premises, and for home use.

Scenarios by temperature   Scenarios by CO_2 level   Scenarios by humidity

Precise readings

The Swiss detector **SHT40** by **Sensirion** ensures the accuracy of LifeQuality's temperature and humidity readings. The Swedish detector **Sunrise** from **Senseair** measures CO_2 concentration.. These reliable detectors are used even in medical equipment.

The combined humidity and temperature detector is installed in an isolated area of the board so that the detector readings are not affected by the heating of other elements of the device. To measure CO_2, an NDIR detector is used instead of VOC sensors calculating carbon concentration mathematically. LifeQuality does not give false readings that can occur due to substance vapours, aerosols, or perfumes.

Measurement accuracy

±0,2°C   ±1,8%   ± (30 + 3%) ppm

In-app monitoring

Your customers can log into the Ajax app to check indoor air quality at any moment. LifeQuality indicators are available on the devices and rooms screen.

Users can check the indicators for a certain time or date. In the app, each indicator is represented by a chart for dynamic air quality assessment and time dependence detection.

Measurement storage
up to 2 years

Measurement discreteness
up to 1 minute

Jeweller + Wings
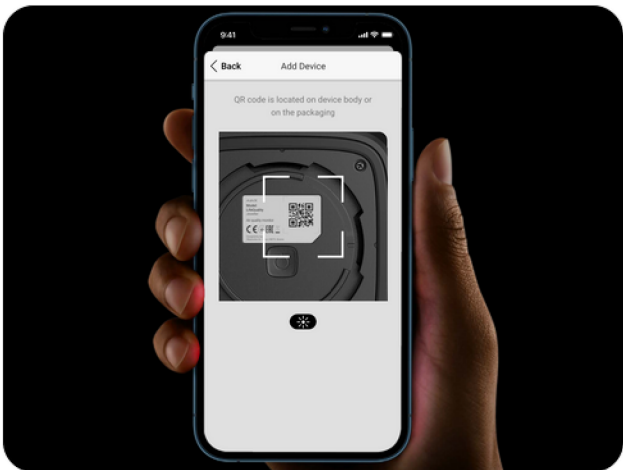## communication technology

Jeweller and Wings are radio protocols for fast and reliable two-way communication between hubs and connected devices. The protocols provide a wireless radio communication range of up to 1,700 m, which allows you to install detectors even in a large open space.

Jeweller provides all the necessary information. This way, users will always have access to detector readings in the Ajax apps, regardless of the number of system devices. Wings transmits large amounts of data after the communication loss and recovery between the detector and the hub.

Quick pairing and installation

LifeQuality saves the installer's time. The detector connects to an Ajax security system in less than a minute. You simply need to open the Ajax app, scan the QR code, and add a detector to a room and group.

No need to disassemble the enclosure. SmartBracket mounting panel allowing to securely fix it on a wall or flat surface. The detector is equipped with an accelerometer to notify if someone tries to remove the device from the mounting panel or change its position.

Technical specifications

Communication with control panel or range extender	**Jeweller communication technology** **Wings communication technology** **Frequency bands** 866.0–866.5 MHz 868.0–868.6 MHz 868.7–869.2 MHz 905.0–926.5 MHz 915.85–926.5 MHz 921.0–922.0 MHz Depends on the sales region. **Maximum effective radiated power (ERP)** ≤ 20 mW **Communication range** up to 1,700 m In an open space.	Compatibility	**Hubs** Hub 2 (2G) Hub 2 (4G) Hub 2 Plus Hub Hybrid (2G) Hub Hybrid (4G) **Range extenders** ReX 2

Additional features	**Automatic calibration** once every 1–14 days	Installation	**Operating temperature range** from 0°C to +50°C
	Manual calibration Run in Ajax apps. Suitable for non-ventilated rooms.		**Operating humidity** up to 85%
	Backup storage If the detector loses communication with the hub (or radio signal range extender), it stores all measured values for up to 3 days.		**Protection class** IP50
Enclosure	**Colour** white, black	Complete set	LifeQuality Jeweller 2 × CR123A battery Pre-installed SmartBracket mounting panel Installation kit Quick Start Guide
	Dimensions 77 × 77 × 34.5 mm		
	Weight 127 g		
	Accelerometer against dismantling		

[1] — CO2 monitoring and indoor air quality, REHVA Journal, 2021

[2] — Consultation on Residential Indoor Air Quality Guidelines for Carbon Dioxide, Water and Air Quality Bureau, Health Canada, 2020

[3] — Is CO2 an Indoor Pollutant? Direct Effects of Low-to-Moderate CO2 Concentrations on Human Decision-Making Performance, Environ Health Perspect 120:1671–1677, 2012