

# LifeQuality Jeweller

Wireless temperature, humidity, and CO<sub>2</sub> monitor



Device compatibility

---

## Communication

📶 Jeweller communication technology

Proprietary wireless communication technology to transmit events.

It features:

- Two-way communication.
- Protection against spoofing.
- Block encryption with a dynamic key.
- Instant notifications.
- Remote configuration via the Ajax apps.

Learn more >

## 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)

up to 20 mW

Automatic power regulation to reduce power consumption and radio interference.

## Radio signal modulation

GFSK

## Radio communication range

up to 1,700 m

Between the detector and a hub/range extender in an open space.

Calculate radio communication range >

## Encrypted radio communication

All the data stored and transmitted are protected by block encryption with a dynamic key.

## Radio frequency hopping

To prevent radio interference and jamming.

Learn more >

## Wings communication technology

Proprietary wireless communication technology for backup connection with the hub (or radio signal range extender).

It features:

- Two-way communication.
- Block encryption with a dynamic key.

- Re-uploading data packets in case of error during data transfer.

[Learn more](#) >

## 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.

## Radio communication range

up to 1,700 m

Between the detector and a hub/range extender in an open space.

[Calculate radio communication range](#) >

## Encrypted radio communication

All the data stored and transmitted are protected by block encryption with a dynamic key.

## Radio frequency hopping

To prevent radio interference and jamming.

[Learn more](#) >

---

## Sensitive elements

Temperature and humidity sensor

CO<sub>2</sub> (carbon dioxide) sensor

---

## Temperature measurement

### Sensitive element

Digital temperature and humidity sensor

Values in the Ajax apps are updated depending on the frequency of the "hub—detector" polling interval, but not less than once per minute.

### Measurement range

from 0 °C to +50 °C

The value is available in the device States in the Ajax app.

### Measurement accuracy

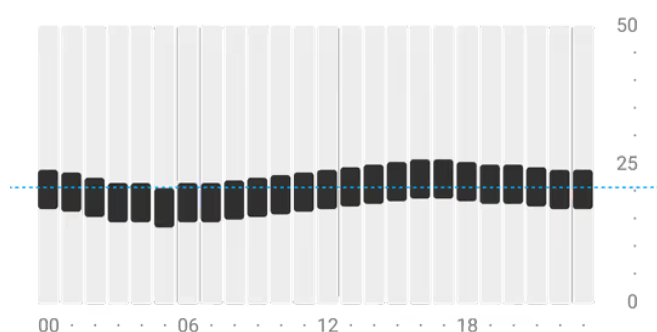
±0.2 °C

### Measurement pitch

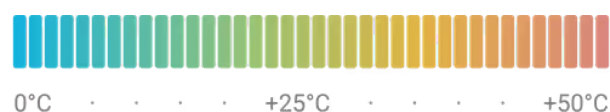
0.1 °C

The minimum temperature change value recorded in the Ajax apps.

Comfort level from 14 to 21 °C



Temperature range



## Humidity measurement

### Sensitive element

Digital temperature and humidity sensor

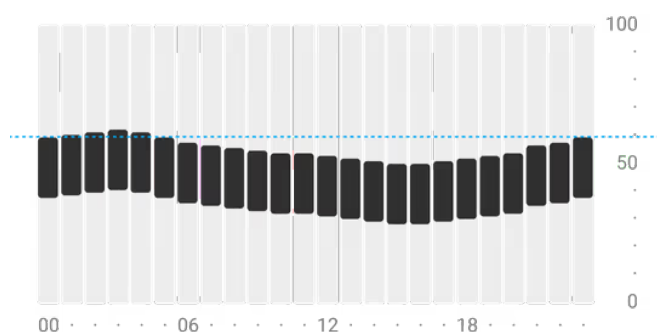
Values in the Ajax apps are updated depending on the frequency of the "hub—detector" polling interval, but not less than once per minute.

### Measurement range

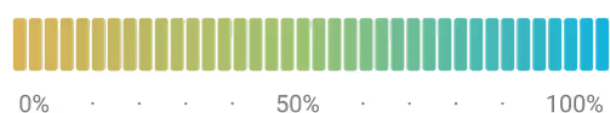
from 0% to 100%

The value is available in the device States in the Ajax app.

Comfort level from 30 to 60%



Humidity range



## Measurement accuracy

±1.8%

## Measurement pitch

1%

The minimum humidity change value recorded in the Ajax app.

---

## Carbon dioxide (CO<sub>2</sub>) concentration measurement

### Sensitive element

digital carbon dioxide sensor

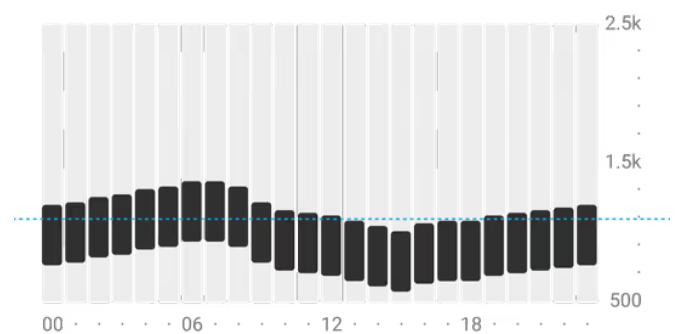
Values in the Ajax apps are updated depending on the frequency of the "hub—detector" polling interval, but not less than once per minute.

### Measurement range

from 400 to 10,000 ppm

The value is available in the device States in the Ajax app.

Acceptable level to 1100 ppm



CO<sub>2</sub> range



## Air quality assessment levels

normal air: up to 1000 ppm

moderately polluted air: from 1000 to 1400 ppm

polluted air: from 1400 to 2000 ppm

critically polluted air: more than 2000 ppm

Effects on well-being:

from 1000 to 2500 ppm— lethargy;

from 2500 to 5000 ppm—possible adverse health effects;

5000 ppm and above—the maximum permissible concentration during an 8-hour working day.

## Measurement accuracy

$\pm 30$  ppm or  $\pm 3\%$

When the CO<sub>2</sub> concentration is less than 5,000 ppm. For higher concentrations, the measurement error increases.

## Measurement pitch

1 ppm

The minimum value of the change in carbon dioxide concentration recorded in the Ajax app.

---

## Additional features

### Charts

of temperature, humidity, and carbon dioxide concentration

Available in the Ajax apps. The data is updated in real time. Measurements are stored for up to 2 years.

Discrete value: 1 minute.

### LED indication

green: Normal air

yellow: Slightly polluted air

red: Polluted air

purple: Critically polluted air

The LED indicator on the device enclosure lights up in the event of a critical change in air quality. The user can also turn on the indication by touching the touch sensitive button on the front panel of the detector.

### Automatic calibration

once every 1–14 days

The detector selects a calibration interval depending on the circumstances and automatically calibrates the carbon dioxide sensor. In normal conditions (ventilated room), manual calibration is not required. The digital humidity and temperature sensor does not require additional calibration.

## Manual calibration

is run in the Ajax apps. Suitable for unventilated rooms. We recommend calibrating the detector once every 2-3 weeks in such rooms.

## Scenarios

reactions to changes in temperature, humidity, and carbon dioxide concentration

For example, turning on plenum ventilation if the air quality deteriorates.

[Learn more](#) >

## Backup memory

up to 3 days

If the detector loses communication with the hub (or radio signal range extender), it stores all measured values. After the connection is restored, all values are sent to the Ajax app.

## Recommendations

The device is designed only for indoor installation at any height. It is not necessary to use the SmartBracket mounting panel.

The detector can be placed on a table or shelf.

---

## Sabotage protection

### Accelerometer

Notifies on attempts to tear off the detector from a surface, remove it from the mounting panel, or move the detector if it is placed on a table or shelf.

## Protection against spoofing

device authentication

## Communication loss detection

within 36 seconds

The detection time depends on the Jeweller or Jeweller/Fibra settings.

[Learn more](#) >

---

## Power supply

2 × CR123A battery

Up to 3 years of autonomous operation (2.5 years if LED indication and accelerometer are enabled).

---

## Enclosure

### Dimensions

77 × 77 × 34.5 mm

### Weight

127 g

### Operating temperature range

from 0 °C to +50 °C

### Operating humidity

up to 85%

### Protection class

IP50





## Colours

Black



White



---

## Complete set

LifeQuality Jeweller

SmartBracket mounting panel

2 × CR123A battery (pre-installed)

Installation kit

Quick start guide