DISRUPTIVE
TECHNOLOGIES
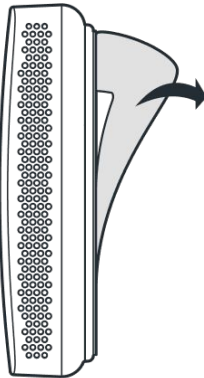
Installation Guide
Wireless CO2 Sensor

What is in the box

Wireless CO2 Sensor with
3M VHB® adhesive backing

What you will need

- A laptop or smartphone running the DT Studio web application studio.d21s.com.

    - If your company does not have a DT Studio organization, get started at d21s.com/start.

- One or more Cloud Connectors (gateway) to forward sensor data to the DT Cloud.

- If you choose to not use the included adhesive, you will need a M6 wall screw and anchor.

Planning the installation

Number of CO2 Sensors

To accurately monitor the CO2 level on an office floor, we recommend using one CO2 sensor for each room up to 50 sqm (500 sqft).
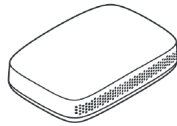
For larger rooms, like open-area office spaces, it depends on the number of people and the room's layout. LEED recommends that all areas with occupancy greater than or equal to 25 people per 90 sqm (1000 sqft) are monitored by a CO2 sensor.

Number of Cloud Connectors

The number of Cloud Connectors needed to cover a typical office space depends on the size of the space as well as the material the walls in the space are made up of.

For example, concrete will reduce the coverage area more than thin drywall.

See the following sections for how to plan Cloud Connectors for different types of installation sites.
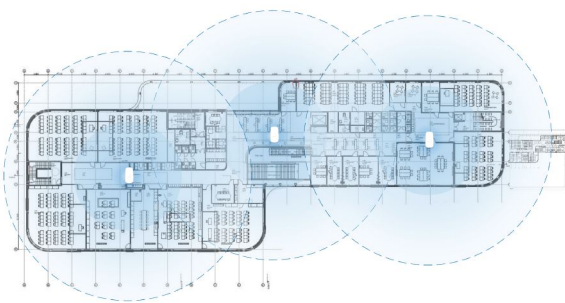
Cloud Connector
Small site
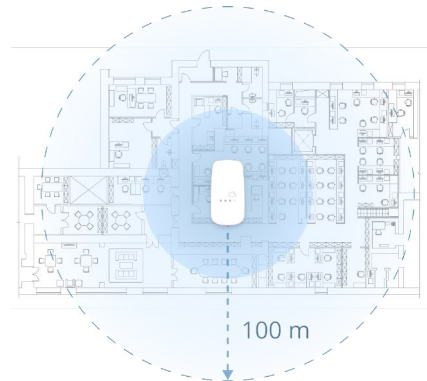
100 m

One Cloud Connector is often enough to cover a smaller site.

To estimate if a single Cloud Connector can cover your entire installation site, we recommend approximating a circle with a radius of 100 m (328 ft) on the floor plan to mark the expected coverage for the Cloud Connector.
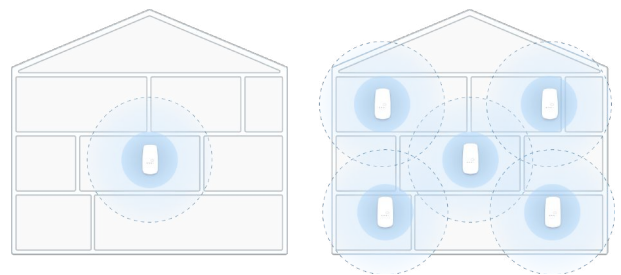
Cloud Connectors
Large site

A large site with many sensors requires multiple Cloud Connectors to provide good coverage.

Estimate by approximating a circle with a 100 m (328 ft) radius on the floor plan.

Place subsequent circles with approximately 120 m (393 ft) spacing.

Cloud Connectors
Multiple floors

Consider that Cloud Connectors can provide coverage on the floor above and below for multi-floor installations.

The range will depend on the construction of the building, especially the material of the floor separators.

If possible, plan for Cloud Connectors on each floor shifted horizontally to maximize the signal coverage, as seen in the image.
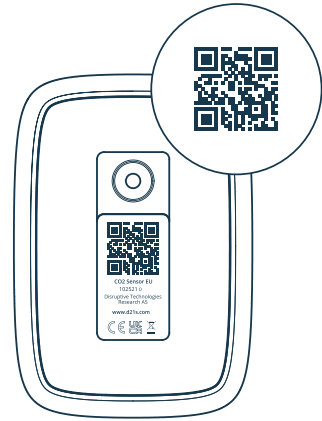
On the installation day

1. Install the Cloud Connectors in the locations found during planning.

   Visit support.d21s.com to see best practices for Cloud Connector installations.
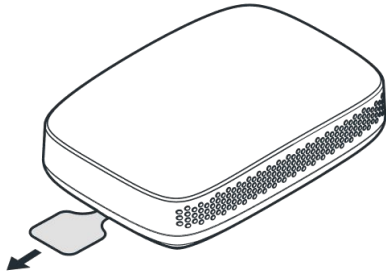
2. Pull the battery tab to activate the sensor.

   The Cloud Connector will automatically start to relay data from the sensor to the cloud service.
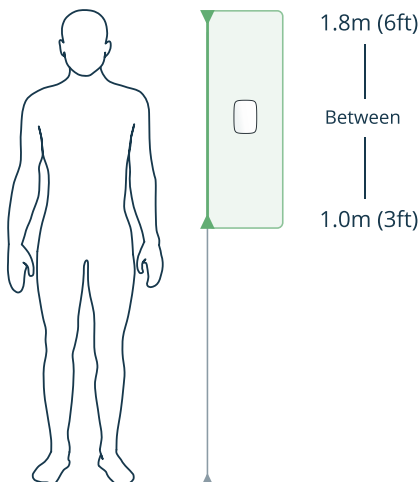
   The default update rate is 5 minutes.

3. Claim the sensor in Studio by scanning the QR code found on the device. The same code is printed on the packaging label.

   Sensor name

   Main Meeting Room

4. The sensor is now be available in Studio and you can give it a name, e.g. "Main Meeting Room".


1.8m (6ft)

Between

1.0m (3ft)

5. CO2 sensors are designed to be wall mounted at approximately 1-1.8m (3-6 ft) above the floor (breathing height).

   Installing the sensor higher on the wall or in the ceiling can lead to measuring artificially low CO2 levels.

Doors   Air supply   Windows
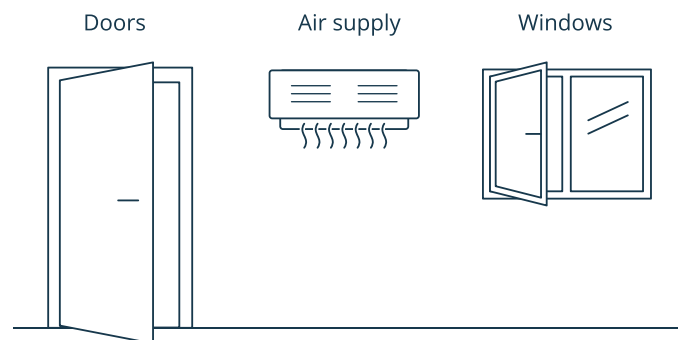
⊗ CO2 sensors should be placed **at least 1m (3ft)** from doors, windows, air supply, air vents or any other heating or cooling source that can affect the CO2, temperature or humidity measurement.
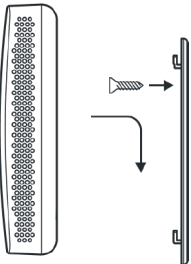
(6)   There are two options for mounting the sensor.
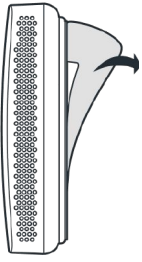
Option 1

Mount the sensor to a clean wall surface using the included adhesive backing.

Please note: the adhesive creates a strong bond to the surface and can't be removed and reapplied once placed.

- - - - - - - - - - - - - - - - - Or - - - - - - - - - - - - - - - - -

Option 2

Remove the mounting plate by sliding it downwards and mount the bracket to the wall using a screw.

Please note: Screw and wall anchor is not included in the box.

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7 Days

Calibration & Settling Period

The sensor needs 7 days to calibrate itself before the CO_2 measurements are within the specification. CO_2 levels might be artifically high within the first 7 days.

Factors that impact measurement accuracy

Because the sensor provides real time measurements, the readings taken during installation can be artifically high.

Human breath within meters of the sensor can have an impact on the CO_2 reading.

Physically touching the device during installation can impact temperature and humidity measurements.

Support

If any problem should occur during installation, or if you have any questions, please reach out to us.

We thank you for choosing sensors from Disruptive Technologies.

d21s.com/support

support@disruptive-technologies.com

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(08:00–16:00 CET/CEST)

US **+1 (855) 714-3344**
 (8 am – 5 pm EST)