

Helvar

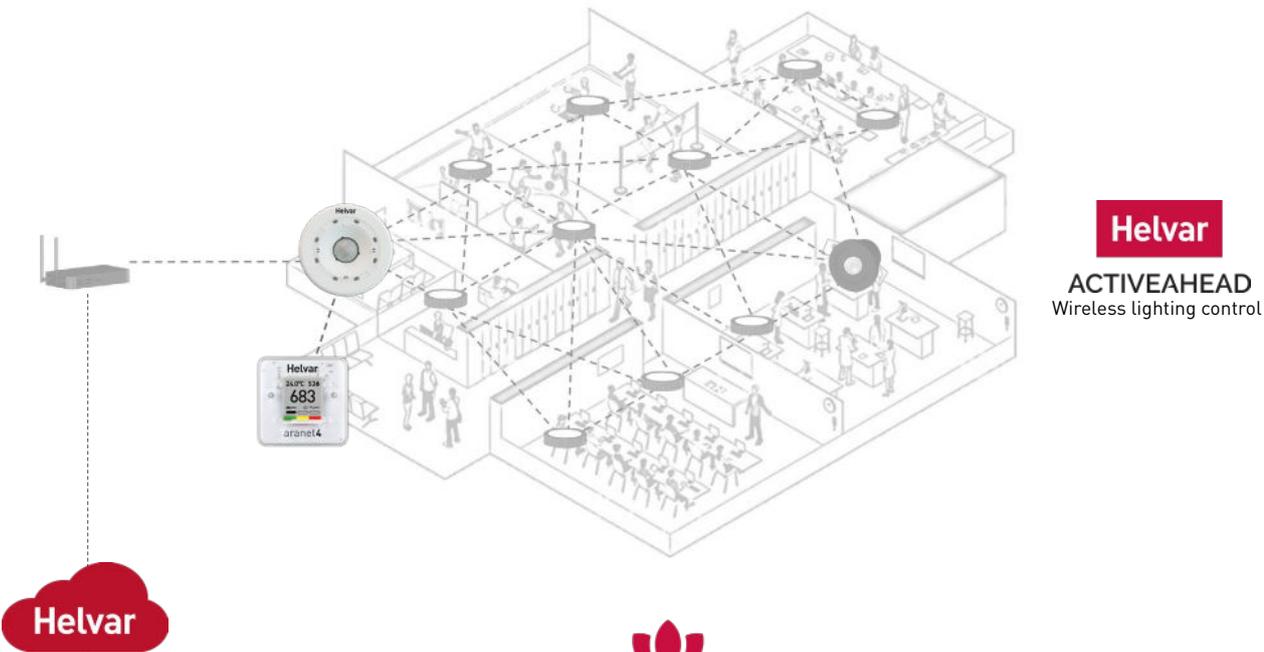
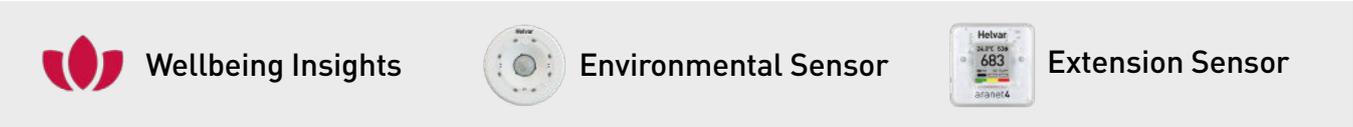
Helvar Senses Environmental Sensing Overview Guide



Helvar SENSES

Helvar Senses consists of occupancy, light, and environmental sensors working together to measure indoor environmental conditions. As part of your intelligent lighting control system, Helvar Senses allows you to optimise your spaces with actionable data.

Data from Helvar Senses is processed and visualised in the Helvar Insights lighting management platform under the Wellbeing module and can also be accessed via API.



Helvar Senses Measurements



LIGHT

Light is essential for life and enhances wellbeing, productivity and safety.



OCCUPANCY

Understand how your spaces are being used and optimise them accordingly.



CO₂

Too much carbon dioxide can decrease mental capacity and cause drowsiness.



VOCs

Monitor Volatile Organic Compounds (VOCs) to avoid health risks.



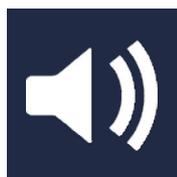
TEMPERATURE

Maintain comfort and identify HVAC or insulation problems.



HUMIDITY

Get the right balance for a comfortable indoor climate.



SOUND

Maintain healthy noise levels and create special zones for different activities.



ATMOSPHERIC PRESSURE

Ensure optimal air flow by maintaining the right indoor atmospheric pressure.

Key benefits of environmental sensing



Optimise your indoor spaces for health and wellbeing, allowing people to function and feel at their best.

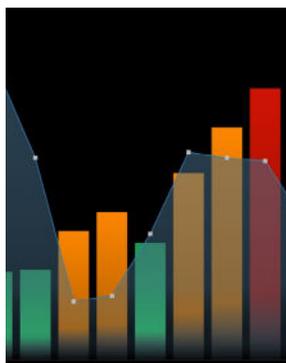


Meet building certifications such as WELL, LEED and BREEAM, where substantial credits are awarded for optimising the indoor environment.



Comply with legislation that increasingly requires reporting in areas such as environmental impact and employee health & safety.

Why add environmental sensing to your lighting system?



Access unique combinations of data. By comparing lighting- and environmental data, you can make more informed decisions to help optimise your spaces.

For example, occupancy and space utilisation data combined with indoor air quality data can help you to identify improvements for your HVAC system schedules, potentially saving energy and carbon emissions.



Minimise costs and embodied carbon. Lighting systems typically have the densest network of sensors in a building, and taking advantage of this infrastructure can reduce installation complexity and simplify maintenance.

Moreover, environmental sensors integrate multiple sensing technologies into a single product, reducing the need for individual devices and thus reducing embodied carbon.



Futureproof your building for possible changes. Lighting systems with the correct technological foundations can be easily reconfigured throughout a building's life cycle.

Additionally, battery-powered wireless extension sensors can be used to easily expand range and location. This flexibility gives more freedom during the design and tenanted phases of the building.

3901 Environmental Sensor

The 3901 sensor is a combined lighting control and environmental sensor capable of measuring a range of indoor environmental conditions.

Inbuilt Sensors

1. PIR
2. Light
3. Temperature
4. Relative humidity
5. eCO₂ (estimated Carbon Dioxide)
6. tVOC (total Volatile Organic Compounds)
7. Sound



Key features

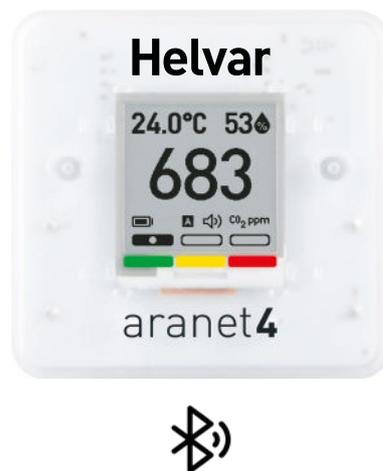
- Ceiling mounted
- Bluetooth Mesh Protocol Support
- Compatible with the Helvar ActiveAhead solution
- Extension Sensor Connectivity
- Presence detection area: 6x8m coverage at 2.5m height
- Dimensions: 66mm diameter, 62mm depth
- Status and identification LEDs
- Degree of protection: IP30

Aranet4 PRO Extension Sensor

This complimentary sensor has a wireless connection to the 3901 Sensor, and offers flexibility in terms of free-placement and additional measurement capabilities. Calibration and custom placement also result in improved accuracy.

Inbuilt Sensors

1. CO₂ (NDIR - Nondispersive infrared)
2. Temperature
3. Atmospheric pressure
4. Relative humidity



Key features

- Wireless, battery-powered Bluetooth Low Energy (BLE) Beacon Sensor
- Compatible with the Helvar ActiveAhead solution
- Connectivity to 3901 Environmental Sensor via Helvar App
- 1 Extension Sensor per 3901 Environmental Sensor
- E-Ink display shows sensor measurements
- Status indicator with option for audible air quality alerts
- AA-battery powered, battery life typically 4 years
- Dimensions: 70mm x 70mm x 24mm
- Degree of protection: IP20

User interface

Helvar Insights is the interface for Helvar Senses. The Wellbeing module allows users to view real-time and historical environmental data across desktop, laptop, tablet and mobile devices.



Figure 1: CO₂ vs Occupancy

Comparing Carbon Dioxide levels to occupancy data indicates that the ventilation system is functioning as intended during working hours.

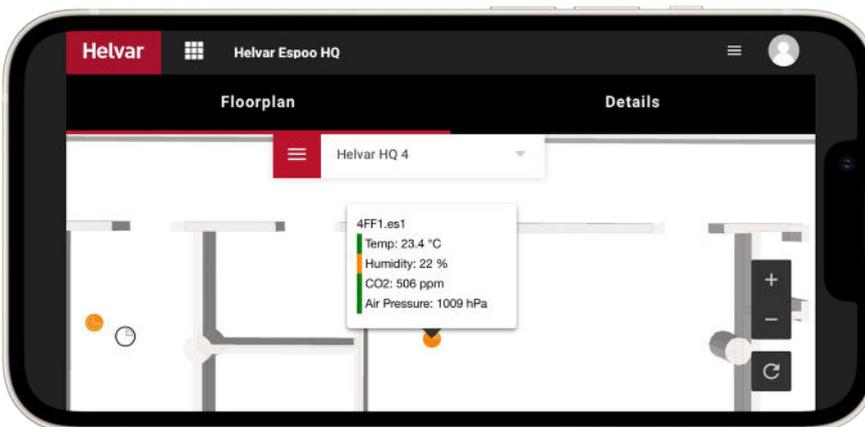


Figure 2: Floorplan view

An orange indicator shows that humidity levels in a meeting room are above a previously set threshold.



Figure 3: TVOC vs Occupancy

TVOC levels are elevated during non-occupied hours, but some exceptions occur at 09:00, 12:00, and during the late afternoon. These spikes could be investigated further by looking at individual spaces.

Ready to unlock your building's potential?

Whether you have an upcoming project or you just want to learn more, our team of experts is here to help.

Get in touch with us

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