

PRODUCT DATASHEET

CHESTER Clime IAQ

Continuous indoor air quality monitoring — CO₂, VOCs, temperature, humidity, and pressure in one cloud-connected device that keeps buildings healthy and ventilation compliant.



REFERENCE NUMBER HPD.260706.06-R1 DATE July 6, 2026

0–10 000

ppm CO₂ range (NDIR)

±50 ppm

CO₂ accuracy

83 000

lux illuminance range

5 m / 98°

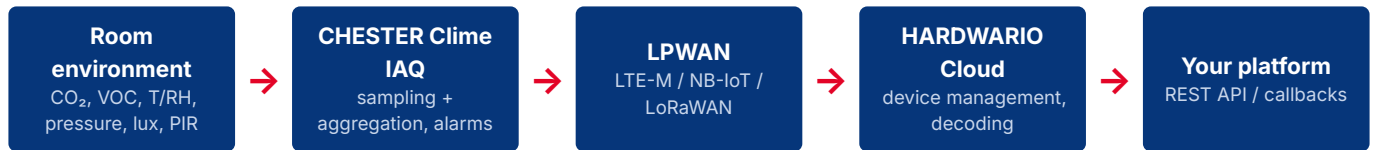
PIR presence detection

Why integrators pick it

- **Complete IAQ picture in one device**
Measures CO₂, volatile organic compounds (VOCs), temperature, humidity, and atmospheric pressure — plus illuminance and PIR presence detection for occupancy context — in a single unit.
- **External power with battery backup**
Runs from a 6–28 V DC supply with a rechargeable Li-Pol backup battery lasting up to 1 year — monitoring continues through power outages, uninterrupted.
- **NDIR CO₂ sensor**
High-accuracy non-dispersive infrared sensing — the gold standard for indoor air quality — covering the full 0 to 10 000 ppm range.
- **No infrastructure required**
Reports over NB-IoT, LTE-M, or LoRaWAN — no Wi-Fi onboarding, no Ethernet cabling, no dependency on the building's IT network.

Where it fits

CHESTER Clime IAQ is the fastest path to documented, continuous air quality data: CO₂-driven ventilation in offices, regulatory compliance in schools, hospitals, and public buildings, objective HVAC performance evidence during construction handover and post-occupancy, and condition monitoring in warehouses protecting sensitive inventory. The same data stream serves the facility team, the compliance audit, and your client's dashboard.



From room air to your client's dashboard — each device samples, aggregates (min/max/average/median), and reports timestamped batches.

Every sensor is sampled on a configurable period, aggregated locally, and transmitted in timestamped batches — radio time stays low and no reading is lost between reports. On the device itself, the push-button LED signals the current CO₂ level — green, orange, or red against configurable thresholds — and the built-in buzzer gives acoustic feedback, so occupants get an answer without any app. Local commissioning and firmware updates run over Bluetooth Low Energy from a phone with HARDWARIO Manager; fleets are managed remotely through HARDWARIO Cloud with data handover via REST API or HTTP callbacks.

Technical specification

MEASUREMENT

Measured quantities	CO ₂ , VOCs, temperature, humidity, barometric pressure, illuminance, motion (PIR)
CO ₂ sensor	NDIR, 0 to 10 000 ppm, accuracy $\pm(50 \text{ ppm} + 3 \%)$
Temperature	-20 to +80 °C, accuracy $\pm 0.2 \text{ °C}$ (from 0 to 65 °C)
Humidity	0 to 100 %, accuracy $\pm 2 \%$ (from 10 to 90 %)
Barometric pressure	20 kPa to 110 kPa, accuracy $\pm 0.4 \text{ kPa}$
Illuminance	0.01 to 83 000 lux, accuracy $\pm 0.2 \%$
PIR presence	5 m detection range, 98° detection angle (horizontally and vertically)
On-device feedback	Push-button with RGB LED — color signals CO ₂ level against configurable thresholds — and acoustic buzzer

CONNECTIVITY

Cellular	LTE-M / NB-IoT
LoRaWAN	Supported — network mode selectable in configuration
Local access	Bluetooth Low Energy — configuration and firmware updates via HARDWARIO Manager
Antenna	External via SMA antenna pigtail

POWER

External power	DC 6 V to 28 V
Backup battery	Rechargeable Li-Pol, 2 000 mAh — up to 1 year of operation
Idle consumption	< 180 µA
Peak consumption	< 250 mA

ENVIRONMENT & MECHANICAL

Operating temperature	−30 to +70 °C
Storage temperature	−30 to +70 °C
Dimensions	130 × 175 × 45 mm

Ordering information

CHESTER Clime IAQ ships as one assembled application built from the following modules — externally powered, with the multi-sensor cover and the Li-Pol backup charger included:

Ordering code	Description
CHESTER-M-BCGLS	CHESTER mainboard — LTE-M/NB-IoT, LoRaWAN, BLE, GNSS
CHESTER-S1-BCMP	Integrated multi-sensor cover — CO ₂ sensor, lux meter, hygrometer, PIR detector, microphone, push-button with RGB LED
CHESTER-X10	External power module — DC 6–28 V input + Li-Pol battery charger
CHESTER-E7-LP	Enclosure for the CHESTER-S1 cover with SMA antenna pigtail

COMPLIANCE

CHESTER Clime IAQ conforms to the Radio Equipment Directive 2014/53/EU — including the EN 18031-1 cybersecurity requirements mandatory since August 2025 — and the RoHS Directive 2011/65/EU, and to the equivalent UK statutory requirements. The built-in radio modules additionally carry FCC certifications for the US market.

Declaration of Conformity: HDC.260706.05

CE
UKCA

Scope an air-quality pilot

A CHESTER Clime IAQ evaluation unit reports CO₂, comfort, and occupancy data to your platform in an afternoon. Tell us about the buildings — room count, ventilation setup, connectivity on site — and we will configure a pilot kit that matches it, including integration support for your first deployment.

- [Explore CHESTER Clime IAQ in the HARDWARIO store](#)
- [Learn more about the CHESTER platform](#)

ABOUT HARDWARIO

HARDWARIO a.s. designs and manufactures industrial IoT devices in Liberec, Czech Republic. Founded in 2016 and listed on the Prague Stock Exchange, the company does more than 80 % of its business through its partners.

HARDWARIO a.s.

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