PERSONAL FORMALDEHYDE MONITOR

CNRY

A wearable, rechargeable formaldehyde monitor that pairs with your phone, shows your exposure with a three-color status light, and logs every reading.



0–2.0 ppm	< 2 min	50 × 50 × 16 mm	Bluetooth LE
Formaldehyde range	Sensor response time	1.97 × 1.97 × 0.63 in · 28 g (0.99 oz)	Phone app + logging

Sensing

Sensor	Sensirion SFA40 electrochemical formaldehyde sensor with integrated relative-humidity and temperature compensation, individually factory calibrated
Target gas	Formaldehyde (HCHO)
Measuring range	0–2,000 ppb (0–2.0 ppm)
Accuracy	±20 ppb or ±20% of measured value, whichever is larger (sensor specification, 0–200 ppb). Accuracy at OSHA levels (0.5–2 ppm) is being established by validation testing PENDING
Cross-sensitivity	Ethanol 0.3% (15 ppb output at 5 ppm ethanol). Methanol, phenol and glutaraldehyde TBC
Also measures	Relative humidity and temperature, for compensation and logging
Measurement rate	Sensor updates every 0.5 s; logging interval set by firmware TBC
Response · warm-up	< 2 min response to a concentration change · about 10 min after power-on to reach specification
Sensor lifetime · drift	> 6 years · < 5 ppb or < 5% of reading per year, whichever is larger

Alerts

Status light	Light-pipe status bar on the front face, lit by two RGB LEDs: green (clear), amber (caution), red (alert). It also shows pairing (blinking blue), charging (pulsing white, solid white when full) and low battery (amber double-blink)
Reference levels	OSHA 29 CFR 1910.1048: action level 0.5 ppm (8-hr TWA) · PEL 0.75 ppm (8-hr TWA) · STEL 2 ppm (15-min). Default thresholds: amber at 0.5 ppm, red at 2 ppm; adjustable in the app
Audible alerts	Delivered by the paired phone (app notifications). Hardware R3.0 has no built-in sounder.

Connectivity

Wireless	Bluetooth Low Energy, Nordic nRF54L15 system-on-chip (Arm Cortex-M33, 1.5 MB non-volatile memory, 256 KB RAM)
Antenna	Integrated 2.4 GHz chip antenna, tuned per unit design
Wireless range	TBC
App	CNRY app for iPhone and Android: live reading, 8-hour average, peaks, session history, log export
Data storage	Readings stored on the device and synced to the phone; on-device log capacity TBC

Power

Battery	500 mAh rechargeable lithium-polymer, built in
Charging	USB-C, 5 V. Linear charger with power-path management (TI BQ24074) so the device keeps running while it charges
Charge current	About 220 mA (design value); input current limited to about 400 mA
Charge time	About 2.5–3 hours from empty (calculated)
Battery life	A full work shift (8+ hours) on a charge
Power design	60 nA quiescent buck regulator; the sensor supply is switched off between measurements to save power

Physical

Dimensions	50 × 50 × 16 mm (1.97 × 1.97 × 0.63 in), body
Weight	28 g (0.99 oz)
Enclosure	Two-piece screw-assembled white shell, with sensor vents, light pipe, USB-C port and side button
Wearing	Clips to a collar, pocket, lapel or apron strap, or wear it on a neck lanyard
Controls	One side button: status, power on/off, pairing, restart and factory reset (30 s hold, with a red warning blink first)
Ports	USB-C (USB 2.0): charging and service data
Electronics	44.45 × 44.45 mm (1.75 × 1.75 in), 4-layer, 1.6 mm (0.063 in) FR-4 circuit board, lead-free

Environment & compliance

Operating conditions	0–50 °C, 10–90% RH, non-condensing
Storage	Recommended 10–30 °C, 30–70% RH; short-term (shipping) −40–70 °C, 5–95% RH
Water / dust resistance	Not rated. Keep CNRY away from liquids, and do not spray cleaners into the vents
OSHA exposure monitoring	Designed for personal exposure monitoring under 29 CFR 1910.1048(d). Validation against the standard's accuracy requirements (§1910.1048(d)(5)) is in progress PENDING

Certifications	FCC, ISED and CE testing not yet completed PENDING
Warranty	Two-year limited warranty (cnrysensor.com/warranty)
Materials	Lead-free assembly; sensor covered by Sensirion's REACH/RoHS declaration

Regulatory status. CNRY is designed to provide the personal exposure monitoring required by the OSHA Formaldehyde Standard (29 CFR 1910.1048), measuring in the employee's breathing zone and reporting 8-hour TWA and 15-minute STEL exposures. It is being validated against the standard's accuracy requirements: within ±25% at the TWA and STEL, and within ±35% at the action level, at the 95% confidence level (§1910.1048(d)(5)). Validation results will be published before release. Exposure monitoring is one requirement of the standard; employers must still provide the engineering controls, protective equipment, training and medical surveillance it requires. CNRY is not a medical device. This document describes a pre-release product. Specifications marked TBC or Pending are not final, and all specifications are subject to change.