

The ABH range at a glance

One platform PCB · twenty loggers · probes & accessories

Product range overview

One 80 × 50 mm 4-layer platform PCB — 145 parts, single-sided SMT — becomes 20 SKUs by BOM selection and a SKU record in the on-board ID EEPROM. One firmware image reads its SKU at boot and configures radio, power path, cell chemistry, display and GNSS.

ABH-100 — Offline & transit loggers

Model	Product	Sensing	Connectivity	Battery (calc.)
ABH-100-S	Single-use transport logger	Temperature, Humidity	Offline — no radio (IATA-simple)	≈0.8 yr
ABH-100-SL	Lean single-use logger	Temperature	Offline — no radio	≈0.8 yr
ABH-100-M	Multi-use spot logger	Temperature, Humidity	Offline — no radio	≈3.4 yr
ABH-100-M-BLE	BLE phone-app logger	Temperature, Humidity	Bluetooth Low Energy (ESP32-C3)	≈2.6 yr standalone
ABH-100-D	Dry-ice & ULT logger	Probe temperature, Ambient T + RH	Offline — no radio	≈4.6 yr
ABH-100-G	GNSS transit tracker	Temperature, Humidity, Position	SIMCom A7672S (India) / A7672E (EU) LTE Cat-1	≈7.3 d per charge

ABH-200 — Online monitors & gateways

Model	Product	Sensing	Connectivity	Battery (calc.)
ABH-200	Online fridge monitor	Probe temperature, Ambient T + RH	Wi-Fi 2.4 GHz (ESP32-C3-MINI-1U)	Always on when powered · RTC cell ≈10 yr
ABH-200-H	Online humidity monitor	Temperature, Humidity	Wi-Fi 2.4 GHz (ESP32-C3-MINI-1U)	Always on when powered · RTC cell ≈10 yr
ABH-200-LR	Long-range online monitor	Probe temperature, Ambient T + RH	Wi-Fi 2.4 GHz (ESP32-C3-MINI-1U)	Always on when powered · RTC cell ≈10 yr
ABH-200-BLE-hub	Wi-Fi gateway + BLE hub	Temperature, Humidity, Node backlogs	Wi-Fi + BLE central (ESP32-C3-MINI-1U)	Always on when powered · RTC cell ≈10 yr
ABH-200-C	Cellular online monitor	Temperature, Humidity	SIMCom A7672S (India) / A7672E (EU) LTE Cat-1	Always on when powered · RTC cell ≈10 yr
ABH-200-E	External-probe fridge monitor	Probe T + RH, Ambient T + RH	Wi-Fi 2.4 GHz (ESP32-C3-MINI-1U)	Always on when powered · RTC cell ≈10 yr

ABH-300 — Industrial multi-channel

Model	Product	Sensing	Connectivity	Battery (calc.)
ABH-300	Industrial multi-probe monitor	4 × probe temperature, Ambient T + RH, Pressure	Wi-Fi 2.4 GHz (ESP 32-C3-MINI-1U)	≈82 d USB-loss backup
ABH-300-L	Long-life offline industrial	4 × probe temperature, Ambient T + RH, Pressure	Offline — no radio	≈3.5 yr at 300 s
ABH-300-TC	Thermocouple monitor	K-type thermocouples, Aux digital probes, Ambient T + RH + pressure	Wi-Fi 2.4 GHz (ESP 32-C3-MINI-1U)	≈78 d USB-loss backup
ABH-300-AQ	Air-quality monitor	CO ₂ , Particulate + VOC, Ambient T + RH + pressure	Wi-Fi 2.4 GHz (ESP 32-C3-MINI-1U)	≈56 d USB-loss backup
ABH-300-SH	Shock & tilt tracker	Shock / tilt, Ambient T + RH + pressure, 4 × probe temperature	Wi-Fi 2.4 GHz (ESP 32-C3-MINI-1U)	≈71 d USB-loss backup
ABH-300-W	Weigh & tank-level monitor	Load cells, Ambient T + RH + pressure, 4 × probe temperature	Wi-Fi 2.4 GHz (ESP 32-C3-MINI-1U)	≈71 d USB-loss backup
ABH-300-AI	Universal analog input monitor	4 × universal analog, Ambient T + RH + pressure, 4 × probe temperature	Wi-Fi 2.4 GHz (ESP 32-C3-MINI-1U)	≈76 d USB-loss backup
ABH-300-GPS	Roaming asset tracker	Position, Ambient T + RH	SIMCom A7672S / A7672E LTE Cat-1	≈11.3 d per charge

Find by application

Vaccine & pharma fridges (2–8 °C)	ABH-200 · ABH-200-E — Always-on USB monitor with e-paper, alarm LED and PT100 probe — the WHO-PQS-style vaccine-fridge use case.
Warehouses & humidity-critical storage	ABH-200-H · ABH-100-M-BLE · ABH-200-BLE-HUB — Many points, one record — T/RH monitors per zone, or low-cost BLE nodes collected by one hub.
Cold rooms & large sites	ABH-200-LR · ABH-300 — External high-gain antenna (LR) or industrial multi-probe coverage for mapped rooms.
ULT freezers (–80 °C) & dry ice	ABH-100-D · ABH-300 — Logger stays outside the freezer; a Class-A PT100 probe measures inside — accuracy where it matters.
Cleanrooms & CO₂ incubators	ABH-300-AQ — CO ₂ , particulate and VOC channels alongside T/RH and pressure in a vented IP54 build.
Stability chambers & mapping studies	ABH-300 — Four PT100 channels plus T/RH and barometric pressure — one instrument per mapped chamber.
Single-use transport & distribution	ABH-100-S · ABH-100-SL — Cheapest compliant record for one-way pharma trips — no radio, IATA-simple, signed PDF on arrival.
High-value shipments, live location	ABH-100-G — LTE Cat-1 + GNSS tracker with flight mode for air legs and excursion alerts in transit.

Shock & tilt-sensitive cargo	ABH-300-SH — Accelerometer channel adds shock/tilt evidence to the environmental record.
Autoclaves, ovens & sterilization	ABH-300-TC — Type-K thermocouple input to +1000 °C with battery backup through the cycle.
Process signals — 4–20 mA / 0–10 V	ABH-300-AI — Universal analog inputs bring tanks, humidity transmitters and PLC signals into the same record.
Sites without power or Wi-Fi	ABH-300-L · ABH-200-C — ≈3.5-year AA lithium offline logging, or an LTE monitor where Wi-Fi never reaches.

Probes

PRB-PT100-3W	PT100 immersion probe — PT100 Class A (IEC 60751:2022) · ±0.15 °C at 0 °C · –50 to +200 °C
PRB-SHT45-1M5	Cabled T+RH probe — Sensirion SHT45 · ±0.1 °C typ · ±1.0 %RH · –40 to +85 °C (2–8 °C fridge duty; not for ULT/dry ice)
PRB-TC-K-3M	Type-K thermocouple probe — Type-K · ±1.5 °C or 0.4 % of reading · –40 to +1000 °C

Certification roadmap

EN 12830:2018 — temperature recorders · CE — RED / EMC / safety · FCC Part 15 · WHO PQS E006 — vaccine cold chain · IEC 61010-1 / IEC 62368-1 · UN 38.3 / IEC 62133-2 — cells & packs — requirements mapped, not held certificates.

The ABH line is at the design-frozen, pre-production stage: every enclosure has passed generated fit-check geometry (791/791 checks, 20/20 SKUs) and every battery-life, drop, thermal and IP figure shown is a calculated or simulated design estimate — measured values replace them as validation hardware runs. Regulatory marks above are the certification roadmap, not held certificates.

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