EMBEDDED TECHNOLOGIES LIMITED

Onebox

The connected datalogger that thinks for itself.

Log it. React to it. See it anywhere.

ETL

Embedded Technologies Limited

www.embeddedc.co.uk

Product brochure

Record · React · Report

One box.
Three jobs.

Traditional dataloggers are passive: they capture numbers to a card and you find out what happened later. Automation controllers react in real time but need an engineer to program them. Cloud platforms do the dashboards but leave you to build the device.

Onebox collapses all three into one unit.

1. Record

High-rate, multi-channel logging to removable storage, plus continuous streaming to the cloud.

- Any mix of 15 channels
- From once an hour to hundreds of times a second
- Standard CSV files on a removable card

2. React

A built-in logic engine runs rules on the device itself, so it keeps working with or without a connection.

- Rules built from drag-and-drop blocks
- Switch, pulse, alarm, log and wait
- Survives reboots and lost Wi-Fi

3. Report

A web portal with live views, charts, alarms and a full audit trail across every unit you own.

- Live readings and full history
- Fleet-wide alarms in one place
- Browser only — nothing to install

01 — RECORD

Datalogging

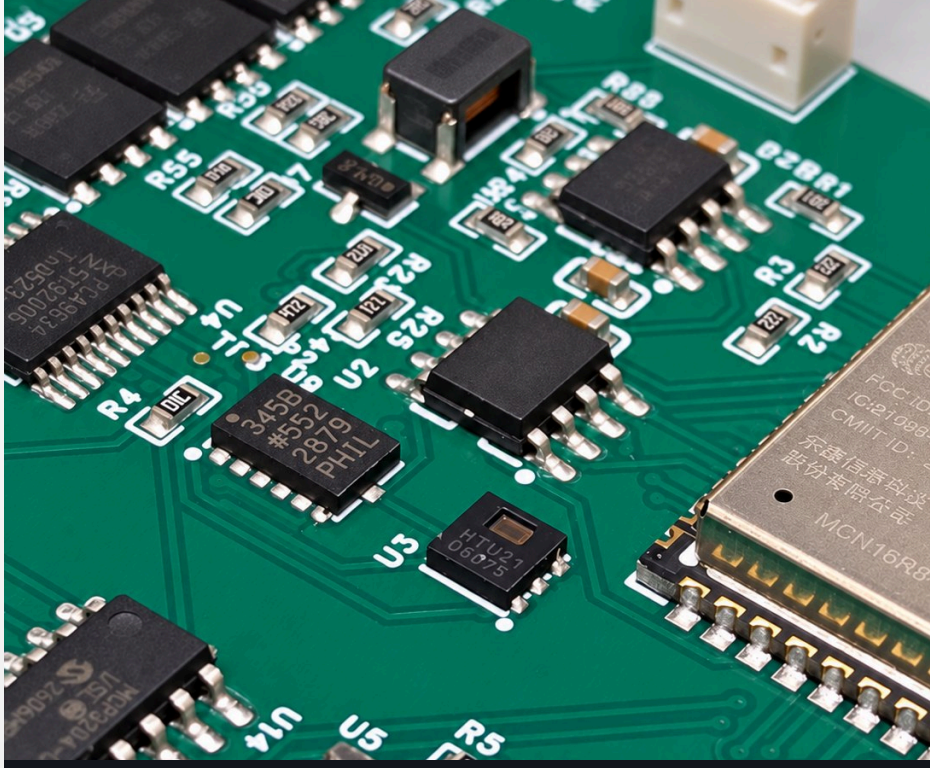
What it records. Any combination of 15 channels: three acceleration axes and their magnitude, four analogue inputs, ambient temperature and humidity, internal temperature, and the state of the LED and every switched output. Pick the channels you want and the file header is written to match.

How fast. Set the logging interval from once an hour to thousands of times a second. Motion and voltage channels sustain high rates; the environmental sensors are slower by nature.

Where it goes. Standard CSV files on the SD card, readable by Excel, Python, MATLAB or anything else. Files rotate automatically at a size you choose, and sequence-numbered names keep long runs in order.

It remembers. The logging job is saved on the device. Power-cycle it in the field and it resumes the same job automatically — no laptop required.

15	1h→ms	1–200	CSV
selectable channels	configurable interval	MB per file, auto-rotated	Excel · Python · MATLAB



Browse without pulling the card

● LOGGING

The portal's storage browser lists, opens, downloads and deletes files on the card remotely. Large files download in chunks, so slow links still work.

Storage / sdcard	29.1 GB free
run_0005.csv	200.0 MB
run_0006.csv	200.0 MB
run_0007.csv ← writing	18.4 MB

ROWS WRITTEN	INTERVAL	CHANNELS
184 220	5 ms	ax ay az |a| ain1 t

Live status refreshes every few seconds while logging. Values shown are illustrative.

Programmable logic

Powerful rules. No programming skills needed.

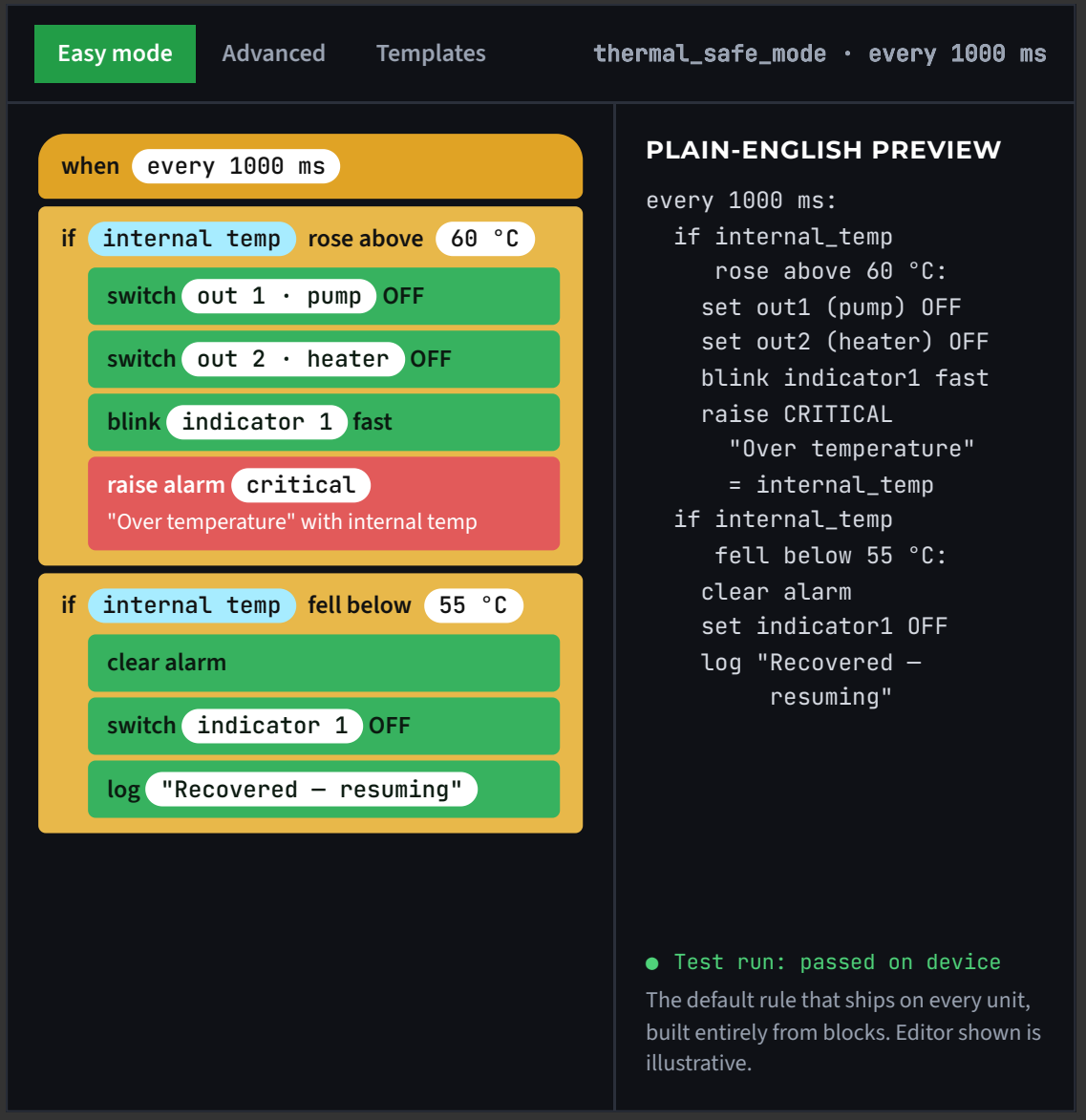
A program is a named rule that runs on the device — every N milliseconds, once at power-on, or when you start it by hand. Several run at once, each independently.

Reads everything the device senses — each axis, each input, temperatures, uptime and output states — plus its own variables, including values that survive a power cycle.

Does real things. Switch or pulse outputs, light or dim indicators, play a tone, raise an alarm with a severity, write to the audit trail, wait for a condition with a timeout.

Understands behaviour, not just thresholds. *Rose above* and *fell below* fire once on a crossing; *cooldown*, *latched*, *min*, *max*, *abs* and *magnitude* handle the sensor maths.

Runs on the box, not in the cloud. Lose Wi-Fi and the rules keep running; alarms queue and arrive when the link returns. Programs survive reboots and firmware updates.



Easy mode
Drag-and-drop blocks. No syntax, no typing code.

Advanced mode
The same program as structured text. Switch any time.

Preview
Readable pseudo-code to sanity-check what it will do.

03 — REPORT

The portal

Everything in a browser. Works on phone and desktop. Nothing to install.

Each device gets its own view, with a tab for every job:

Status — connection, uptime, firmware, card

Live — real-time readings and motion stream

Charts — any metric, any time range

Data — the telemetry archive

Datalogger — configure and monitor CSV logging

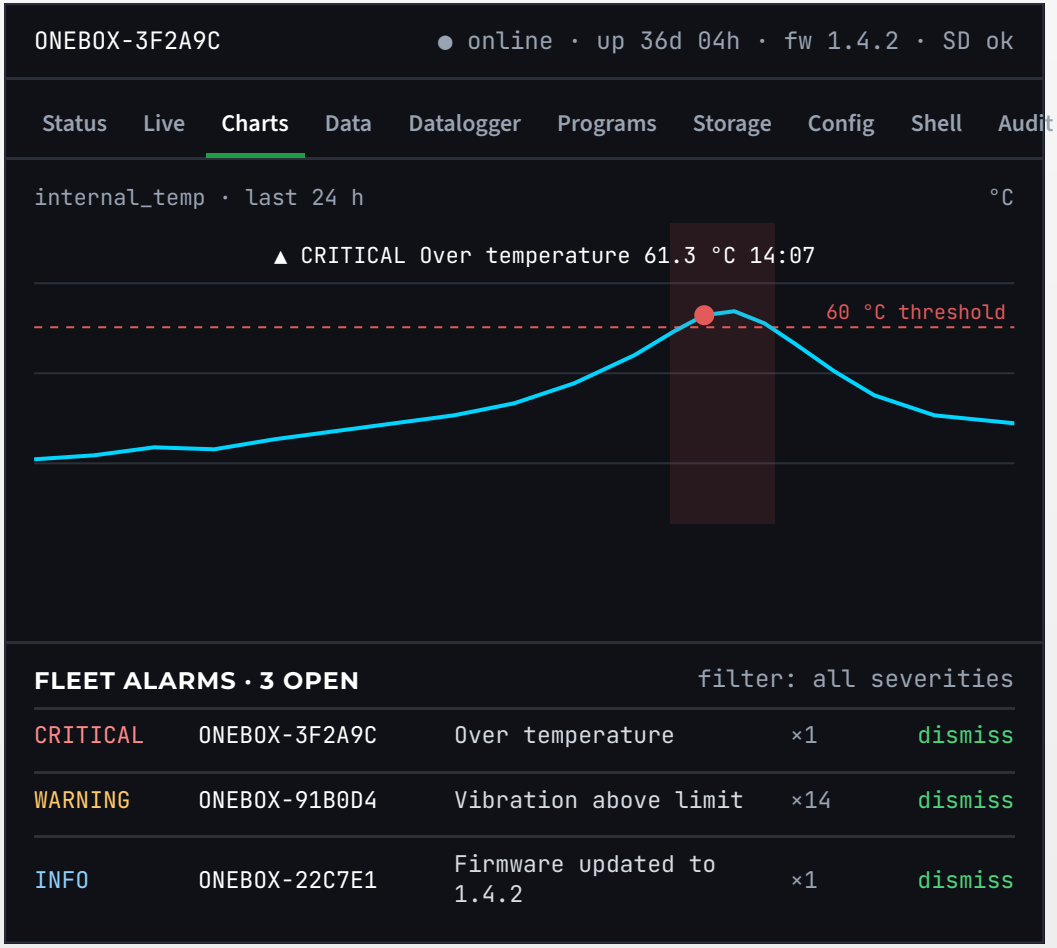
Programs — the logic editor

Storage — the SD card browser

Config — settings, calibration, output names

Shell — a live console, over USB or cloud

Audit — a timestamped timeline of every event



Fleet view

A personal dashboard combining charts from several devices, with a layout that persists. Every open alarm on every device on one page — filter by severity, dismiss in one click, duplicates rolled into one entry with a count.

Updates over the air

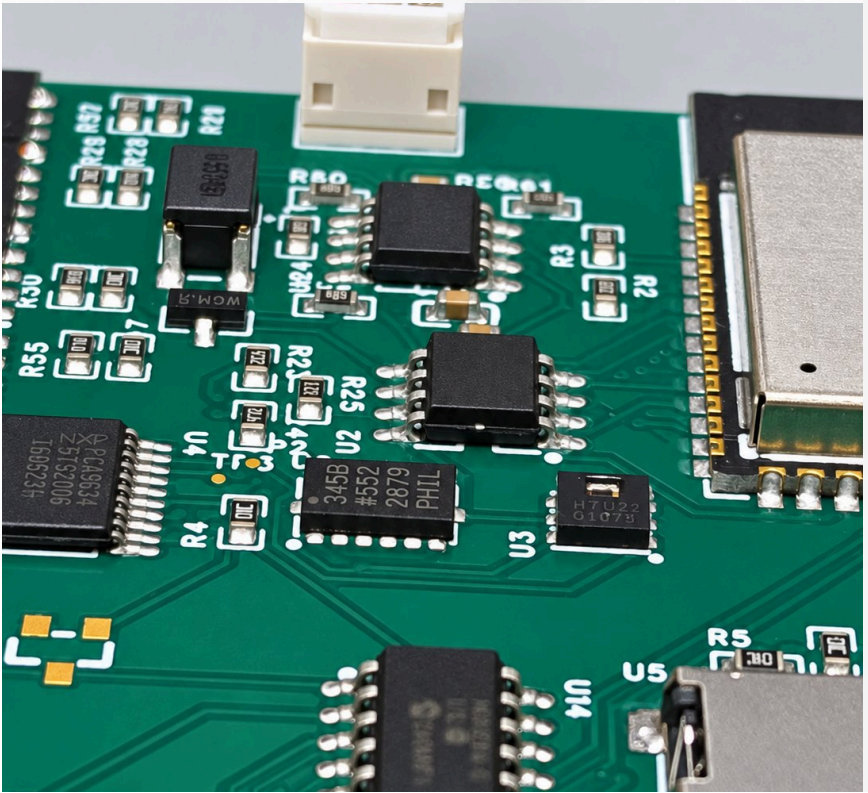
Upload a firmware image once, push it to any device and watch progress live. The device validates the new image and rolls back automatically if it fails to come up.

Multiple users

Each device belongs to an account, with admin tools for managing users and the fleet. Devices are identified by a fixed ID derived from the hardware — nothing to configure.

Command palette

Keyboard-driven jump-to-anything across the portal, plus your recently viewed devices. Dark theme by default, with a light option.



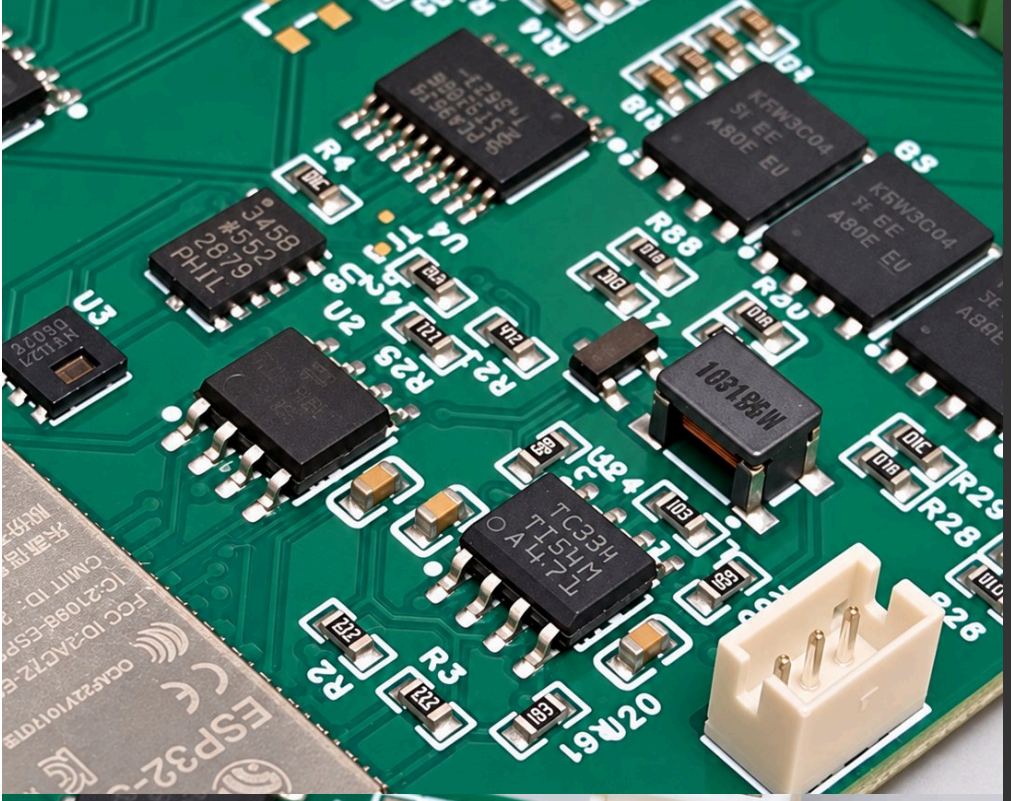
HARDWARE

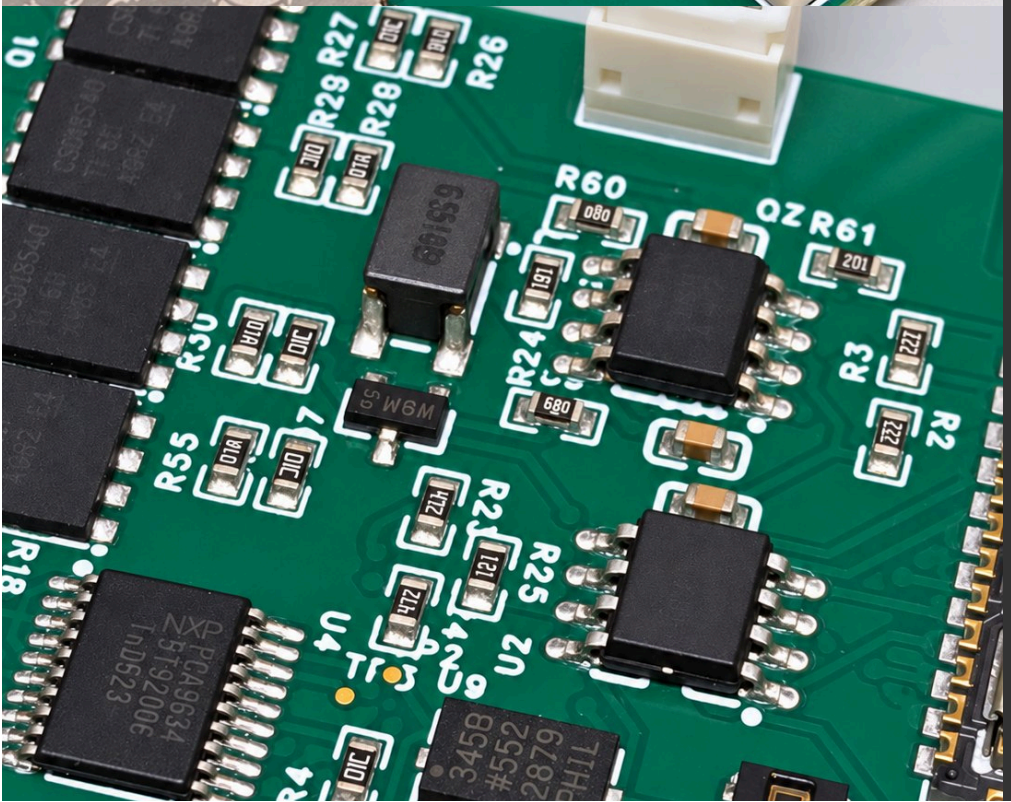
Interfaces & I/O

One compact enclosure. Screw terminals for the analogue inputs and load outputs, bus connections for CAN and RS485, a USB port for setup and service, an SD card slot and a speaker output.

INTERFACE	CAPABILITY
BUILT-IN SENSING	
3-axis motion & vibration	Acceleration on X, Y, Z and overall magnitude
Temperature & humidity	Ambient environmental sensing
Analogue inputs ×4	Wide input range for industrial signals and external sensors
Internal temperature	Device health monitoring
SWITCHED OUTPUTS	
High-current outputs ×4	Pumps, valves, relays, lights, heaters — on/off or pulsed with set frequency and duty
Indicator outputs ×8 + status LED	Dimmable indicator / light outputs
Speaker output	Tones and audio clips for alerts and confirmations
VEHICLE & INDUSTRIAL BUSES	
CAN bus	OBD-II mode reads live engine data — engine speed and vehicle speed out of the box
RS485 serial	Industrial instruments
STORAGE & CONNECTIVITY	
SD card	Removable storage; tested with 32 GB cards
Wi-Fi	Continuous link to the cloud portal
USB	Initial setup and local service access

Full electrical ranges, resolutions and ratings available on request.





WHO IT'S FOR

Built for the field

A ready-made, ruggedised data and control node that you configure rather than build. Designed and engineered in the UK by Embedded Technologies Limited.

Test & field engineers

Vibration, voltage and environmental data from equipment in the field — straight into a spreadsheet or chart without fuss.

Fleet & asset operators

Many units reporting to one place, with alarms that tell you when something has gone wrong — and an audit trail of what happened.

Integrators & makers

A configurable node with inputs, outputs, logic and a portal already done. Spend your time on the application, not the device.

Automotive & machinery

Log directly off the vehicle or machine bus. CAN with OBD-II engine data and RS485 for industrial instruments are built in.

Powered from an external supply. A low-power logging profile is available for battery-backed deployments.

Two streams, one device. CSV logging to the card and a continuous low-rate telemetry feed to the portal run independently.

Live motion in the browser. Push a high-rate motion stream to the portal for real-time inspection.

GETTING STARTED

Up and running in under five minutes

A guided wizard takes a brand-new unit from the box to your account straight from the browser. No terminal, no toolchain, no app to install.

1. Plug in over USB
Connect the unit to any computer with a browser.

2. Join Wi-Fi and claim it
The wizard connects the device and adds it to your account.

3. Log, build, watch
Start a logging job, pick a rule template, see it live.

ETL

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Onebox is designed and engineered by Embedded Technologies Limited, Lancashire, UK · ETL, 2026