BATTSAFE
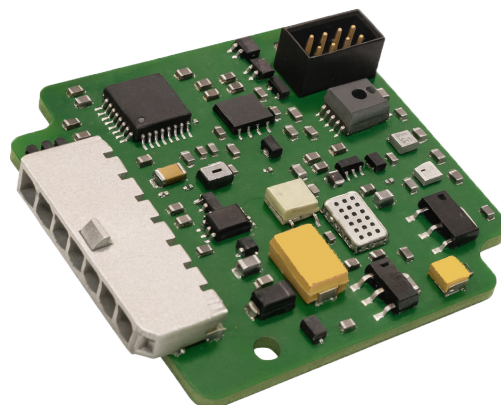## ELECTRONIC BOARD

XAP TECHNOLOGY
SOLUTIONS FOR YOUR FUTURE

ADAPTIVE ENERGY CONTROL, FROM MOTORSPORT TO INDUSTRY.

With decades of experience in the most demanding environments — from motorsport competition to industrial retrofit applications — XAP Technology has developed comprehensive expertise in the design of intelligent battery management systems and electric powertrains.

At the heart of this expertise, the BattSafe exemplifies XAP's ability to go beyond conventional electrical control by integrating an environmental and predictive dimension into energy supervision.

Acting as a true embedded environmental station, it continuously monitors temperature, pressure, humidity, and gas concentrations (H_2, CO_2, VOCs, ethanol) within the battery enclosure.

By combining power electronics, multiphysics sensing, and embedded intelligence, XAP delivers energy management solutions capable of adapting to any electric mobility configuration — from high-performance prototypes to series production. Every component embodies a unified engineering philosophy: reliability, modularity, technological sovereignty, and complete mastery of the energy chain.

MONITOR — PROTECT — OPTIMIZE.

SMARTER BATTERIES, SAFER ENERGY.

MULTI-GAS DETECTION :
Monitors H_2, CO_2, VOCs, ethanol, temperature, humidity, and pressure in real time — not limited to hydrogen only.

AI-DRIVEN INTELLIGENCE:
Adaptive algorithms detect abnormal atmospheric trends before thresholds are exceeded.

PREDICTIVE SAFETY:
Multi-criteria alerts trigger early warnings, preventing thermal runaway and battery hazards.

SEAMLESS INTEGRATION:
Native CAN/CAN-FD broadcast, fully compatible with XAP BMU, CMU, Inverters, and logging systems.

ALWAYS-ON MONITORING:
Powered by BMU, ensures continuous surveillance for 24/7 pack surveillance even when the vehicle is off.
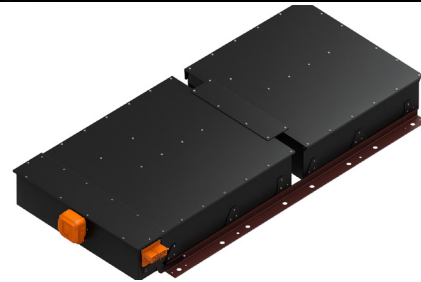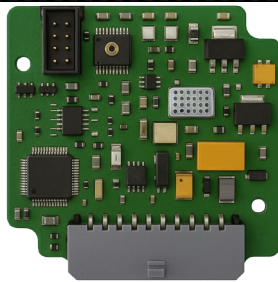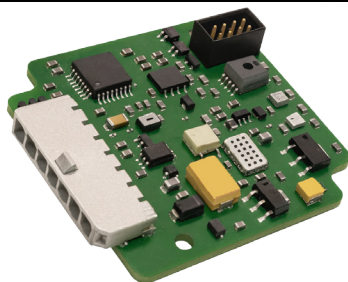
FAST, ACCURATE, RELIABLE:
High-resolution sensors with rapid response and low drift across extreme temperatures.

MODULAR & CONFIGURABLE:
Compact, lightweight, and fully adaptable to custom battery chemistries and safety thresholds.

MORE INFORMATION ON WWW.XAP.FR
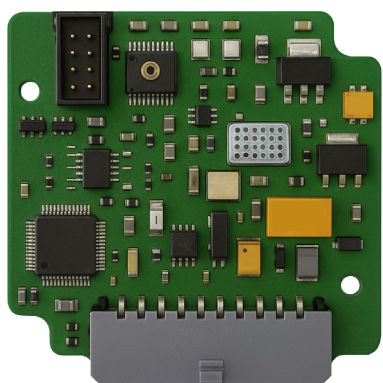
TECHNICAL SPECIFICATIONS

Supply voltage	9 – 15 V DC (typ. 12 V)
Current consumption	≤ 130 mA
Sensors included	BME688 (T°, RH, Pressure, Gas AI) + MOS / Electrochemical / TCD (H_2, CO_2, VOC, ethanol)
Gas ranges	H_2: 0–4 % vol.; CO_2, VOC, ethanol: 0–10 000 ppm typical
IAQ range	0 – 500 (dimensionless)
Response time	< 3 s (90 % step)
Data rate	Up to 10 Hz (100 ms refresh)
Memory	512 kB EEPROM (calibration + events)
Communication	CAN / CAN-FD broadcast, DBC formatted
Lifetime / MTBF	> 13 000 h continuous operation
Maintenance	Annual gas sensor recalibration via Bosch BSEC software
Integration	Fully compatible with XAP BMU/ BMS via isolated CAN bus

MECHANICS

Dimensions	110 × 75 × 25 mm
Weight	< 150 g
Operating environment	–40 °C to +85 °C / IP65–IP67 (depending on installation)
Integration	Fully compatible with XAP BMU/ BMS via isolated CAN bus

SAFETY

Vibration / Shock	Automotive grade (IEC 60068-2-6 / -27)
EMC	Filters & shielding per UNECE R10 / ISO 11452
Safety standards	ISO 26262 ASIL-B (sensor module) / UNECE R100 / R136 compliant

REFERENCES

PS0570	BATTSAFE ELECTRONIC BOARD

MORE INFORMATION ON
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