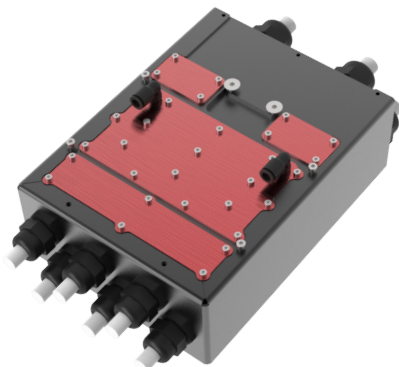


LVC-30 INVERTER



XAP Technology has forged its expertise at the highest level of motorsport, bringing this know-how to the new era of electric mobility.

The LVC30 is more than a standard inverter: it is a robust, compact, and versatile motor control platform, designed to deliver 30 kW continuous and up to 60 kW peak power at 60 V.

LVC30 ensures that every kilowatt is used efficiently and reliably.

Its versatility is unmatched: **the LVC30 can control a three-phase motor, a six-phase motor, or two three-phase motors simultaneously — making it ideal for retrofit projects, industrial vehicles, marine systems, and even aerospace applications.**

Its liquid cooling system guarantees stable operation, while its 600 A sustained absorption and 1000 A transient capability ensure outstanding dynamic performance. The LVC30 is also fully compatible with all major sensors offering maximum flexibility for system designers.

With the LVC30, XAP provides a safe, scalable, and high-performance inverter, staying true to its roots: motorsport precision and reliability, applied to your projects.



FULLY VERSATILE INVERTER

TWO CONTROLLERS IN ONE:

A unique architecture allowing simultaneous control of two three-phase motors (15 kW each) or a single motor up to 30 kW at 60V.

EMBEDDED XAP DYNAMIC CONTROL SYSTEM:

Real-time dynamic mapping and precise settings integrated directly in the inverter, far beyond a simple tuning tool.

UNIVERSAL SENSOR COMPATIBILITY:

Hall, resolver, sin/cos, digital SSI, and digital encoder, offering total integration freedom.

EXTENDED VOLTAGE RANGE (12–80 V DC):

Maximum flexibility to suit retrofit projects, industrial vehicles, marine systems, or aerospace applications.

EXCEPTIONAL PEAK CURRENT (1000 A DC):

A unique dynamic reserve in this segment, ensuring sharp acceleration.

HIGH CURRENT ABSORPTION:

600 A DC for more than one minute: stability and endurance even under heavy loads.

FLUX ORIENTED CONTROL (FOC):

Improved efficiency and optimized dynamic response.

FULL CONNECTIVITY:

8 analog inputs, 5 digital inputs, 2 PWM 5 A outputs, isolated USB, independent CAN FD.

INTEGRATED SAFETY:

Logic Power Latched enabling a secured mode before complete shutdown.

USER MAPPING:

Adjustable parameters with different access levels (basic, standard, expert).

PC CONFIGURATION SOFTWARE:

Clear interface to calibrate physical values and fine-tune performance.

PROVEN RELIABILITY:

IP65 protection, guaranteed operation from -40°C to $+85^{\circ}\text{C}$.





► ELECTRICAL SOLUTIONS & POWERTRAIN: LVC-30

ELECTRICAL SPECIFICATIONS

Nominal voltage	60 V DC
Voltage range	12 V to 80 V DC
Logic power supply	8–75 V DC
Continuous Power	30 kW at 60 V
Peak Power	60 kW at 60 V (short-duration use)
Continuous current	500 A DC (battery/bus side)
Sustained high-current absorption	600 A DC for >1 minute
Transient peak current	1000 A DC (acceleration/transient load)
Efficiency	95%
Power protections	Overcurrent, bus over/undervoltage, over-heating, MOSFET short-circuit, sensor fault detection

MOTOR CONTROL & ALGORITHMS

Drive modes	1 three-phase motor (30 kW) 1 six-phase motor (30 kW) 2 three-phase motors (15 kW each)
Supported machine types	Permanent-magnet motors PMSM / BLDC, internal- or external-rotor
Loops & control	Flux Oriented Control (FOC) for efficiency and dynamic response; XAP Dynamic Control System embedded with real-time / live mapping and basic / standard / expert calibration levels
Compatible sensors (position/speed feedback)	Hall, resolver, sin/cos, digital resolver, digital encoder

COOLING & THERMAL

Cooling	Optimized liquid; air option depending on version
Load stability	Sustains 600 A DC >1 min without derating 1000 A DC transient capability

INTERFACES, I/O & CONNECTIVITY

CAN	2 x CAN FD (independent speeds)
USB	1 x isolated USB (setup, diagnostics)
Inputs/outputs	8 analog, 5 digital inputs 2 high-side PWM outputs, 5 A each
VCU (Vehicle Control Unit) function	With the additional I/O, the LVC30 can act as an embedded controller (application logic)
Logic safety	Logic Power Latched (secured mode before shutdown)
PC software	Configuration tool to calibrate physical values and fine-tune performance (access granted at basic/standard/expert levels)

ENVIRONMENT AND RUGGEDNESS

Ingress protection	IP65
Operating temperature	-40°C to +85°C
Vibration/shock	Motorsport/industrial-grade design
EMC	Integrated filters and protections (test reports on request)

MECHANICS & POWER CONNECTIONS

Overall dimensions	302 x 220 x 127 mm
Weight	5 kg
Cooling port	4 x 10 mm push-fit (inlet/outlet)
Power connections	4 x 70 mm ² to battery (DC) 6 x 35 mm ² to motor AMPSEAL 35-way for signals/command

REFERENCES

PF0839	LVC30 INVERTER 60V - 30 KW
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