

# HV-LP INVERTER

## HIGH VOLTAGE LOW POWER INVERTER



- For Electric & Hybrid vehicles
- Control auxiliaries such as:
  - HVAC
  - Compressors
  - Fans & Pumps
- 10 kW Air cooled option
- 20 kW Liquid cooled option
- Wide input voltage 200 VDC ~ 800 VDC
- Integrated I/O for sensors and actuators
- Over-current & Over-temperature protection
- CAN (J1939) controlled
- IP67 and IP6K9K rated
- Compact and lightweight design

The Calatherm HV-LP 10 and HV-LP 20 are high voltage, low power inverters, designed to efficiently control auxiliary electric motors such as pumps, fans, blowers and compressors used in BEV and HEV systems. They are optimised for auxiliary applications where precise motor control, high efficiency and long-term reliability are critical.

Both models offer a wide voltage range from 200 to 800 VDC, allowing seamless integration with modern high-voltage battery architectures. The HV-LP 10 is air-cooled, making it a compact and cost-effective solution for applications with lower power demands. In contrast, the HV-LP 20 is liquid cooled, enabling higher continuous current capability and improved thermal performance in more demanding duty cycles.

Built with a rugged enclosure and advanced protection features, the HV-LP inverters are well suited to harsh operating environments, whilst CAN bus control ensures simple integration with existing vehicle control systems. As a result, the HV-LP 10 and HV-LP 20 are ideal solutions for OEMs and system integrators across automotive, commercial, and off-highway vehicle sectors.

### BENEFITS

- High-voltage compatibility reduces current for a given power level, lowering cable losses and system weight.
- Advanced motor control algorithms deliver smooth speed / torque response and improved energy efficiency.
- Accurate encoder support ensures optimal control across motor types.
- CAN communications allow easy interfacing with battery management systems.
- Configurable I/O and control modes make the units adaptable to diverse applications.
- Robust protection (HVIL, IP67/6K9K) enhances operational safety and durability in tough environments.
- Compatible with both Induction and PM Synchronous motors
- Can be used standalone or as a slave with command torque/speed over CAN bus.

## TECHNICAL SPECIFICATION

Model		HVLP 10	HVLP 20
Cooling Method		Air	Liquid (50% Water : 50% Glycol)
Operating Voltage Range		200 ~ 800 VDC	200 ~ 800 VDC
Output Power		10 kW	20 kW
Protection	Over Current	Yes	Yes
	Over Temperature	Yes	Yes
	EMC	Yes, to UNECE R10	Yes, to UNECE R10
Position Feedback Support		Yes	Yes
Storage Temperature		-40 to +85°C	-10 to +40°C
Operating Temperature	Ambient	-30 to +45°C	-
	Ambient Derated	-30 to -40°C and +45 to +85°C	-
	Coolant	-	-25 to +65°C
	Coolant Derated	-	-25 to -40°C and +65 to +95°C
Humidity		95% RH	95% RH
IP Rating		IP67 and IP6K9K	IP67 and IP6K9K
CAN Communication		Yes	Yes
Mass		3.7 kg	2.3 kg (Dry)
Dimensions		255 x 223 x 95 mm	255 x 223 x 88 mm

## OUTLINE DIMENSIONS

