# HV-DCDC 1.2kW

## HIGH VOLTAGE DC/DC CONVERTER

- For BEV's and HEV's
- Air Cooled
- Wide input voltage 220VDC ~ 800VDC
- Output voltage 12V to 14.5V
- 1.2kW Output power
- High efficiency >92%
- Parallel connection of multiple units
- Input & output protection
- CAN controlled
- IP67 rated
- Compact and lightweight design

Calatherm's high voltage DC/DC converter is a fundamental component in electric and hybrid vehicle electrical systems, serving the same essential role that an alternator performs in conventional internal combustion vehicles. Its primary purpose is to convert energy from the high voltage traction battery into a stable, isolated low voltage power supply capable of supporting the vehicle's electronic systems.

By efficiently stepping down high voltage DC to a regulated low voltage output, the DC/DC enables reliable operation of various electrical systems. It's ability to support 400 and 800 VDC platforms with a single design simplifies vehicle development and allows OEM's to use a common solution across multiple platforms.

High conversion efficiency minimizes energy losses and heat generation, contributing to improved overall vehicle efficiency and extended driving range, and although the DC/DC converter operates largely in the background, it plays a critical role in ensuring that all low voltage systems function reliably under all operating conditions.

## BENEFITS

- Stable LV supply, ensuring the 12 V system gets reliable power regardless of HV battery fluctuations.
- Supports multiple voltage architectures (400 VDC and 800 VDC), simplifying platform development.
- Paralleling multiple units boosts capacity adding resilience, useful for heavier vehicles or high-load accessories.
- High efficiency, reducing energy loss.
- CAN communication enables remote configuration and status reporting.
- Built-in protection helps prevent damage from abnormal events (overcurrent, overvoltage, overtemperature) improving reliability.

## TECHNICAL SPECIFICATION

| | | |
|---|---|---|
| Cooling Method | | Air cooled |
| Input Voltage Range | | 220 ~ 800 VDC |
| Input Under Voltage Lock Out | Turn On | 210 ~ 220 VDC |
| | Turn Off | 205 ~ 215 VDC |
| Max Input Current | | 6.1 ADC |
| Output Power | | 1.2 kW |
| Output Current Range | | Max 83 ~ 100 ADC |
| Output Voltage | Set Point | 12.0 ~ 14.5 VDC (Configurable via CAN) |
| | Regulation | +/- 3% |
| Protection | Over Voltage | 16 VDC |
| | Over Current | 110 ADC |
| Efficiency | | >92% (from 50 ~ 100% Load) |
| Temperature | Storage | -40 to +80°C |
| | Operating | -40 to +80°C |
| Humidity | | 0 to 95% RH |
| Ingress Protection | | IP 67 |
| CAN Communication | | Yes |
| Mass | | 4.4 kg |
| Dimensions | | 267 x 176 x 93 mm |

## OUTLINE DIMENSIONS