

Delphi Universal 2.2kW DC-DC Converter Guide

ThunderStruck Motors – connect@thunderstruck-ev.com

The 2.2 kW Delphi DC-DC converter provides power necessary for 12VDC components in hybrid and electric vehicles. The DC/DC converter operates at input voltages from 216 to 422VDC with a maximum power of 2.2kW.

- High efficiency liquid cooled DC-DC converter
- Applicable to multiple vehicle platforms
- Analog output voltage is adjustable through CAN serial communication
- Over-voltage, over-current, and over-temperature protection with fault reporting

Input/Output

Input: HV 216 – 422VDC

Pin A (RH terminal) HV Positive

Pin B (LH terminal) HV Negative

Output: 11 – 15.5VDC, 2.2kW, max 175A @ 12.5VDC

DC Output Positive: Terminal inside red protected cover

DC Output Negative: Threaded terminal in case ground

CAN Bus

CAN serial data bus for communication at 500 kbps

Data Connections	
Pin	Name/Function
1	CAN Lo
2	CAN Hi
3	12v Wakeup (switched source)
4	CAN Lo (spare)
5	CAN Hi (spare)
6	CAN Lo Termination
7	CAN Hi Termination
8	Not Connected
-	DCDC Case (12v Ground)

Connection and Configuration Notes

- Terminate CAN connections by connecting pins 7 to 4 and 6 to 5
- Connect pin 3 to MCU or EVCC 12v switched output or keyswitch
- Connect output to 12v system (battery) before wakeup
- Coolant required - observe flow direction on case (inlet under +12v terminal)
- Configuration commands for the ThunderStruck MCU or EVCC
 - MCU: enable dcdc can2, set can2br 500
 - EVCC: set canbr 500
 - set ddtype delphi
 - set ddvoltage xx.x (xx.x in range 11.0 to 15.5)