

DC-DC Converter (Isolated) for Hybrid Electric and Fuel Cell Systems



PRODUCT OVERVIEW:

The DC07 Series of converters has been designed for medium and heavy duty electric, hybrid and fuel cell commercial vehicles. It uses advanced digital control with J1939 communications and diagnostics with secondary analog controller and high frequency magnetics with advanced ZVS/ZCS switching to achieve high power density and efficiency. DC07 products are FCC Class A compliant. MIL-STD-1275 option available.

FEATURES:

- DC Input Voltage Range: 250-900V_{DC}
- DC output range: 12-30V_{DC}
- Efficiency: 95% rated, > 94% from 40% to 100% load.
- Output Current: 200A at 27.8V_{DC}, 6 kW, or 300A at 13.6V_{DC}.
- Short Circuit, Over Current, Over/Under Voltage and Over Temp protection.
- Output voltage 12 to 30 V_{DC}, or (42-57V_{DC} optional) programmable via CAN.
- Input and output voltages, currents, power and temperature reporting.
- CAN command, control and diagnostics. Output voltage can be regulated via CAN.
- Can be used in parallel configurations.
- High Efficiency ZVS/ZCS architecture.
- FCC Class A EMI/EMC Compliance, (MIL-STD-1275 Optional)
- IP65 Rated, (IP67 optional)



PART NUMBERING:

DC07 □ □ □ □ □ □

Input Voltages
MV: 250-450V_{DC}
HV: 550-750V_{DC}
UV: 700-900V_{DC}

V-output
12: 12V_{DC}
24: 24V_{DC}
48: 48V_{DC}

Control
C: CAN
0: Fixed

Rsvd

APPLICATIONS:

Electric, Hybrid and Fuel Cell Vehicles, Light Rail, Off-road equipment and Battery charging systems. DC07 can be customized to meet your most stringent applications requirements.

Signal Connector: DEUTSCH DT15-12PA	
1	GND
2	BIAS_ENABLE
3	CAN_H
4	CAN_L
5	RS232_TX
6	RS232_RX
7	GND
8	#CDC_FAULT
9	EXT_BIAS
10	#BOOT_SCI
11	RESERVED
12	RESERVED
HV Connector: Tyco LV Output: 3/8" stud	

Line regulation (±10%)	±1 %
Load regulation	±2%
Ripple	< ±1% + 100 mVp-p
Load transient (10-90%)	< 5% typical
Response time	50 ms typical
Turn-on rise time	Soft-start, 450 ms typical
Output protection	Overload and short circuit
Cooling	Liquid cooled < 60°C, 12 Lpm
Operating temperature	-20°C to +70°C
Load de-rating	2.5% /°C from 60°C liquid
Storage temperature	-40°C to +105°C
Efficiency	95%
Isolation resistance	> 1 MΩ at 700Vdc
Weight	9 kg
Environmental Rating	IP65 (IP67 Optional)
EMI/EMC	FCC Class A

DATA SHEET REV: 1402, Specifications subject to change.

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