



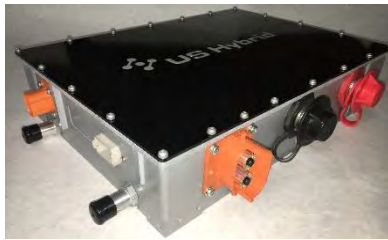
# DC100 dc-dc converter for Fuel Cell electric vehicles

## PRODUCT OVERVIEW:

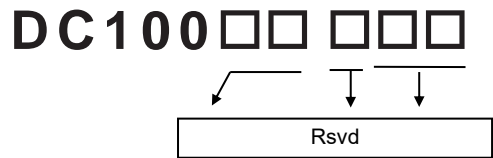
The DC100 dc-dc power has been designed for medium and heavy-duty fuel cell electric vehicles. It uses advanced multi-phases magnetics and SiC power devices utilizing advanced digital control with secondary analog controller and high frequency magnetics, achieving high power density and efficiency with J1939 command, control, communications and diagnostics

## FEATURES:

- DC Input Voltage Range: 170-270V<sub>DC</sub>
- DC output range: 300Vdc to 750Vdc, CAN control
- Rated Power: 100kW
- Efficiency: 96% rated
- Input Current: 550A max.
- Over Current, Over/Under Voltage and Over Temp protection.
- 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.
- FCC Class A EMI/EMC Compliance, (MIL-STD- Optional)
- IP67 Rated, (IP69 optional)



## PART NUMBERING:



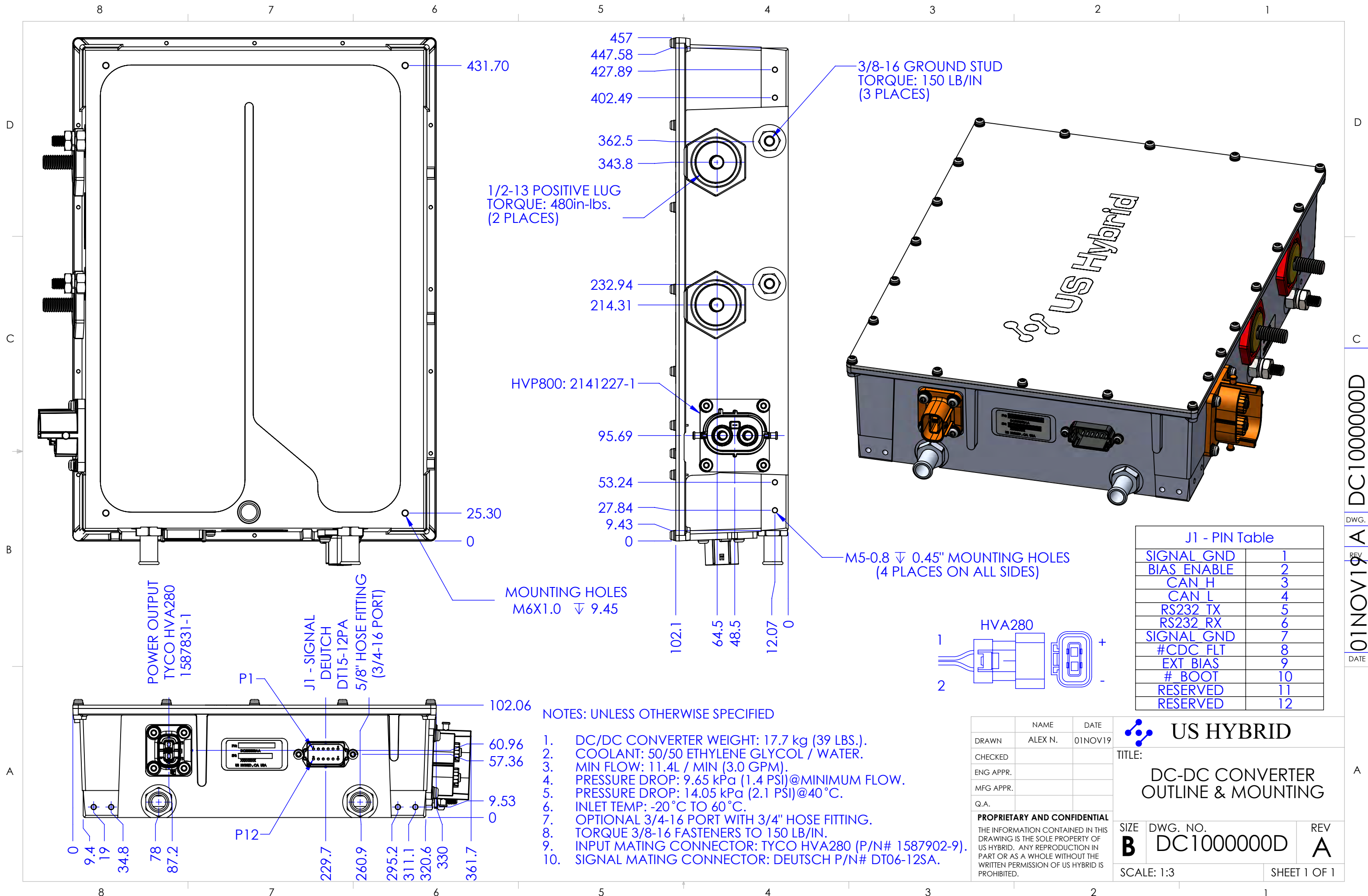
## APPLICATIONS:

Fuel Cell Electric Vehicles, Battery charging systems, Renewable Energy systems, etc. 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
<b>Output: Tyco</b>	
<b>Input: Stud</b>	

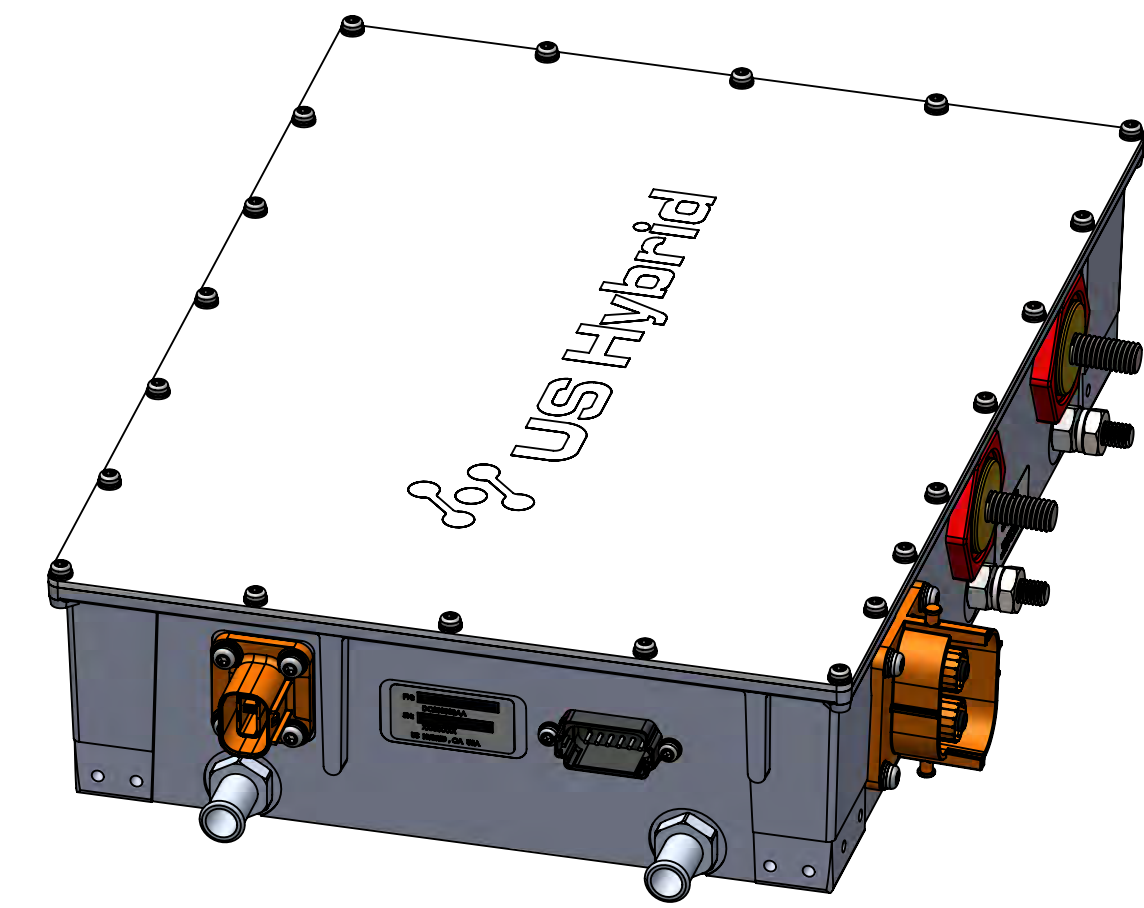
Line regulation (±10%)	±1 %
Load regulation	±2%
Ripple	< ±1% + 100 mVp-p
Load transient (10-90%)	< 5% typical
Response time	50 ms typical
Turn-on rise time	Soft-start, 450 ms typical
Output protection	Overload and short circuit
Cooling	Liquid cooled 65°C, 12 Lpm
Operating temperature	-30°C to +85°C
Load de-rating	2.5% /°C from 65°C liquid
Storage temperature	-40°C to +105°C
Efficiency	97%
Isolation resistance	> 1 MΩ at 700Vdc
Weight	18 kg
Environmental Rating	IP67 (IP69 Optional)
EMI/EMC	FCC Class A, MIL Optional

**Integrated Component Solutions for Clean Mobility & Energy Conservations**

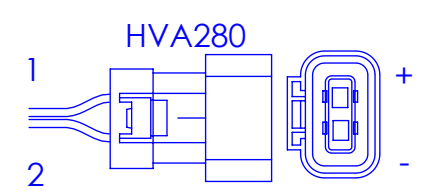


457  
447.58  
427.89  
402.49  
362.5  
343.8  
1/2-13 POSITIVE LUG  
TORQUE: 480in-lbs.  
(2 PLACES)  
232.94  
214.31  
HVP800: 2141227-1  
95.69  
53.24  
27.84  
9.43  
0  
102.1  
64.5  
48.5  
12.07  
0

3/8-16 GROUND STUD  
TORQUE: 150 LB/IN  
(3 PLACES)



M5-0.8 ∇ 0.45" MOUNTING HOLES  
(4 PLACES ON ALL SIDES)



J1 - PIN Table

SIGNAL GND	1
BIAS ENABLE	2
CAN H	3
CAN L	4
RS232 TX	5
RS232 RX	6
SIGNAL GND	7
#CDC FLT	8
EXT BIAS	9
# BOOT	10
RESERVED	11
RESERVED	12

POWER OUTPUT  
TYCO HVA280  
1587831-1  
PI  
J1 - SIGNAL  
DEUTCH  
DT15-12PA  
5/8" HOSE FITTING  
(3/4-16 PORT)

MOUNTING HOLES  
M6X1.0 ∇ 9.45

102.06  
60.96  
57.36  
9.53  
0  
9.4  
19  
34.8  
78  
87.2  
P12  
229.7  
260.9  
295.2  
311.1  
320.6  
330  
361.7

NOTES: UNLESS OTHERWISE SPECIFIED

- DC/DC CONVERTER WEIGHT: 17.7 kg (39 LBS.).
- COOLANT: 50/50 ETHYLENE GLYCOL / WATER.
- MIN FLOW: 11.4L / MIN (3.0 GPM).
- PRESSURE DROP: 9.65 kPa (1.4 PSI)@MINIMUM FLOW.
- PRESSURE DROP: 14.05 kPa (2.1 PSI)@40°C.
- INLET TEMP: -20°C TO 60°C.
- OPTIONAL 3/4-16 PORT WITH 3/4" HOSE FITTING.
- TORQUE 3/8-16 FASTENERS TO 150 LB/IN.
- INPUT MATING CONNECTOR: TYCO HVA280 (P/N# 1587902-9).
- SIGNAL MATING CONNECTOR: DEUTSCH P/N# DT06-12SA.

NAME	DATE
DRAWN ALEX N.	01NOV19
CHECKED	
ENG APPR.	
MFG APPR.	
Q.A.	

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**US HYBRID**

TITLE:  
**DC-DC CONVERTER  
OUTLINE & MOUNTING**

SIZE <b>B</b>	DWG. NO. <b>DC1000000D</b>	REV <b>A</b>
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SCALE: 1:3 SHEET 1 OF 1

01NOV19 A DC1000000D  
DWG. REV DATE