



US Hybrid



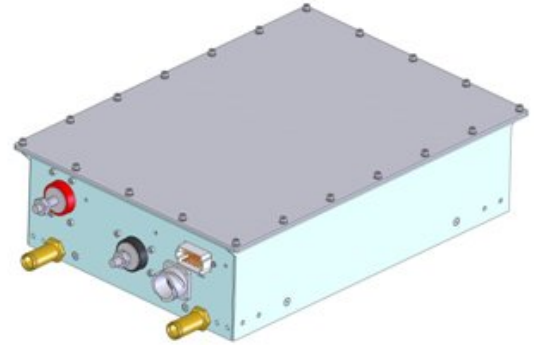
# DC-DC Converter for Fuel Cell and Alternative Energy Systems

## PRODUCT OVERVIEW:

DC-DC converters utilizes advanced Digital Power Processing with high frequency magnetic design to provide efficient and high bandwidth dynamic response for voltage and current regulations with input and output voltage and current and power limits protections. The cost effective high frequency proven magnetic design with robust redundant control provides fast response, flexibility, reliability, light weight and volume product for Fuel Cell and alternative energy industry. Extensive diagnostics via CAN-J1939 and RS232.

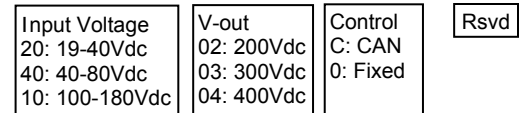
## FEATURES:

- DC Input Voltage Range: 19-80Vdc.
- Ground voltage isolation detection and protection.
- Efficiency: 94% rated, > 91% from 20% to 100% load.
- Short Circuit, OC, O/U V and OT protection.
- Parallelable with fault tolerance operation.
- CAN command, control and diagnostics. Output voltage can be regulated via CAN command. Input and output voltages, currents, power and temperature reporting.
- DC output range: 200-400Vdc
- Max input Current: 350A.
- Bias and communication isolated from power.



## PART NUMBERING:

**PCM-HR** □ □ □ □ □ □ □



## APPLICATIONS:

Fuel Cell, Battery/Ultra-Cap UPS, Wind and Solar power generation systems.

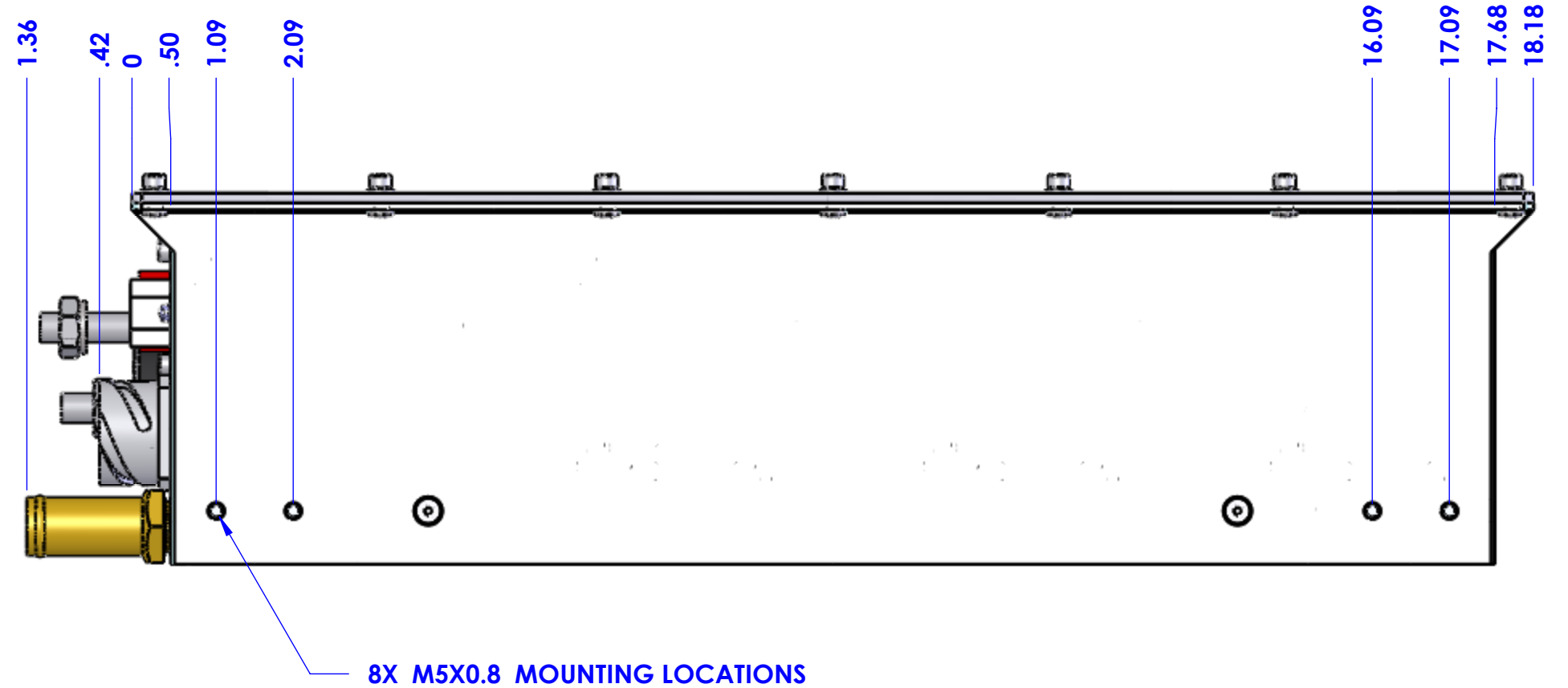
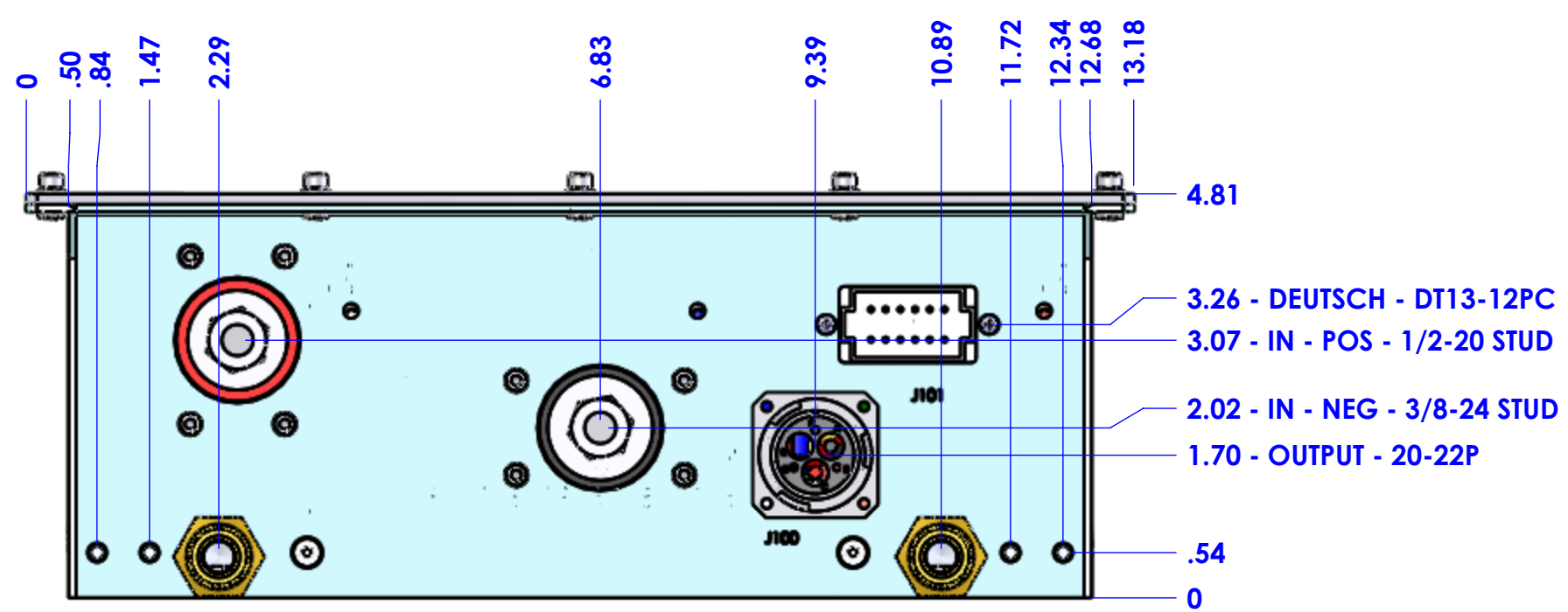
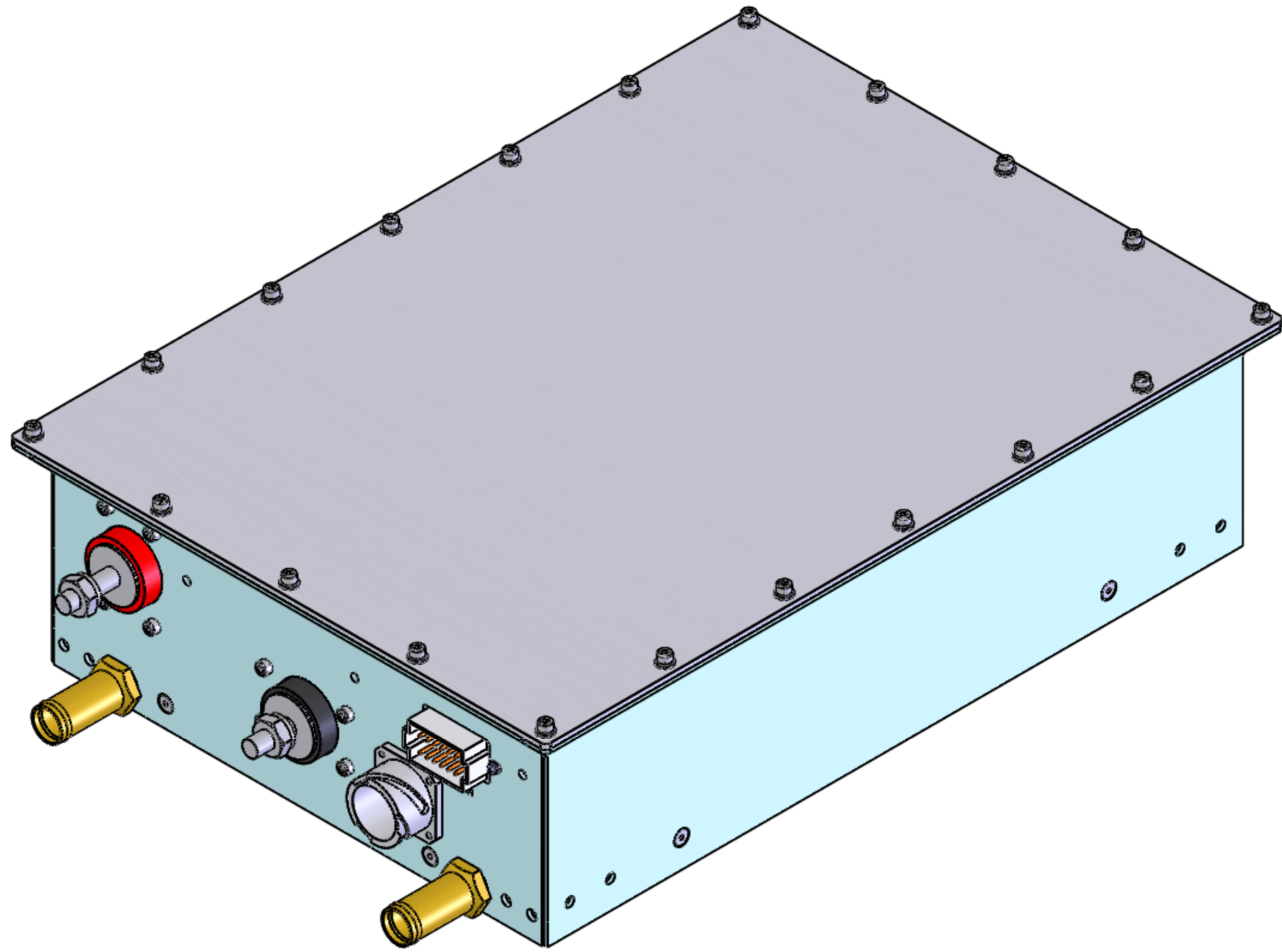
Signal Connector: DEUTSCH DT15-12PA	
1	NC
2	ENABLE
3	P_12V_BIAS
4	P_12V_RTN
5	Reserved
6	Reserved
7	Reserved
8	CAN_H
9	CAN_L
10	RS232_RX
11	RS232_TX
12	BOOT_SCI
<b>Input Power: ½" Lugs</b> <b>Output: AMP, TYCO or ITT.</b>	

Line regulation (±10%)	±2 %
Load regulation	±2%
Ripple	< ±1% + 100 mVp-p
Load transient (10-90%)	< 5% typical
Response time	150 ms typical
Turn-on rise time	Soft-start, 450 ms typical
Output protection	Overload and short circuit
Cooling	Air < 60C or WEG 12 Lpm
Operating temperature	-20°C to +70°C
Load de-rating	2.5% /°C from 60°C liquid
Storage temperature	-40°C to +85°C
Efficiency	> 93% (40%-100% load)
Isolation resistance	> 1 MΩ at 400Vdc
Weight	19 kg.

[www.ushybrid.com](http://www.ushybrid.com)

DATA SHEET REV: 1001, Specifications subject to change.

Integrated Solutions for Clean Mobility & Energy Conservation



NOTES: UNLESS OTHERWISE SPECIFIED

- DC/DC CONVERTER WEIGHT: 12 kg (26.3 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 HOSE FITTINGS: 3/4", 3/8" OR 90 DEG. FITTINGS.

	NAME	DATE	US HYBRID	
DRAWN	F. ERICKSON	01-15-10	TITLE:	
CHECKED			PCM - HBC	
ENG APPR.			OUTLINE & MOUNTING	
MFG APPR.			SIZE	DWG. NO.
Q.A.			C	CV120000DB
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF US HYBRID. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF US HYBRID IS PROHIBITED.			REV	B
SCALE: 1:2			SHEET 1 OF 1	

01-15-10 CV120000DB DATE