

DC-DC Converter (Boost) for Fuel Cell and Alternative Energy Systems



US Hybrid



PRODUCT OVERVIEW:

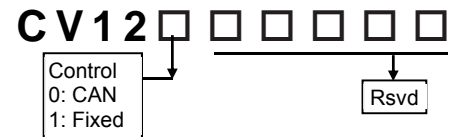
DC-DC converters utilizes advanced Digital Power Processing with high frequency magnetic design to provide efficient and high bandwidth dynamic response for voltage and current regulations with input and output voltage and current and power limits protections. The cost effective high frequency proven 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-DC Boost Converter, Input Voltage: 20-40V_{DC}.
- Input Current: 360A.
- DC output range: 200V_{DC} - 425V_{DC}
- Power: 16kW continuous rated.
- Ground voltage isolation detection and protection.
- Optically isolated CAN and Power is isolated from chassis.
- Efficiency: 92%
- 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.
- Environmental rating IP65 (IP67 Option)



MODEL NUMBER:

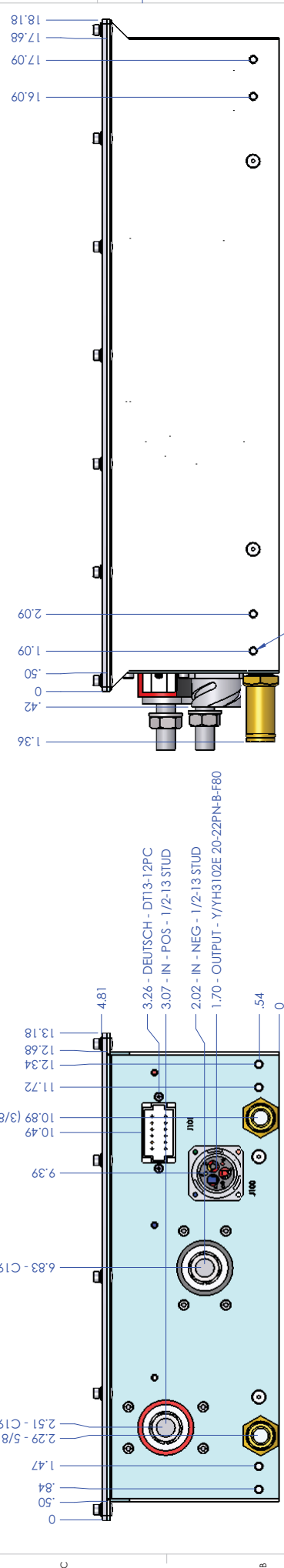
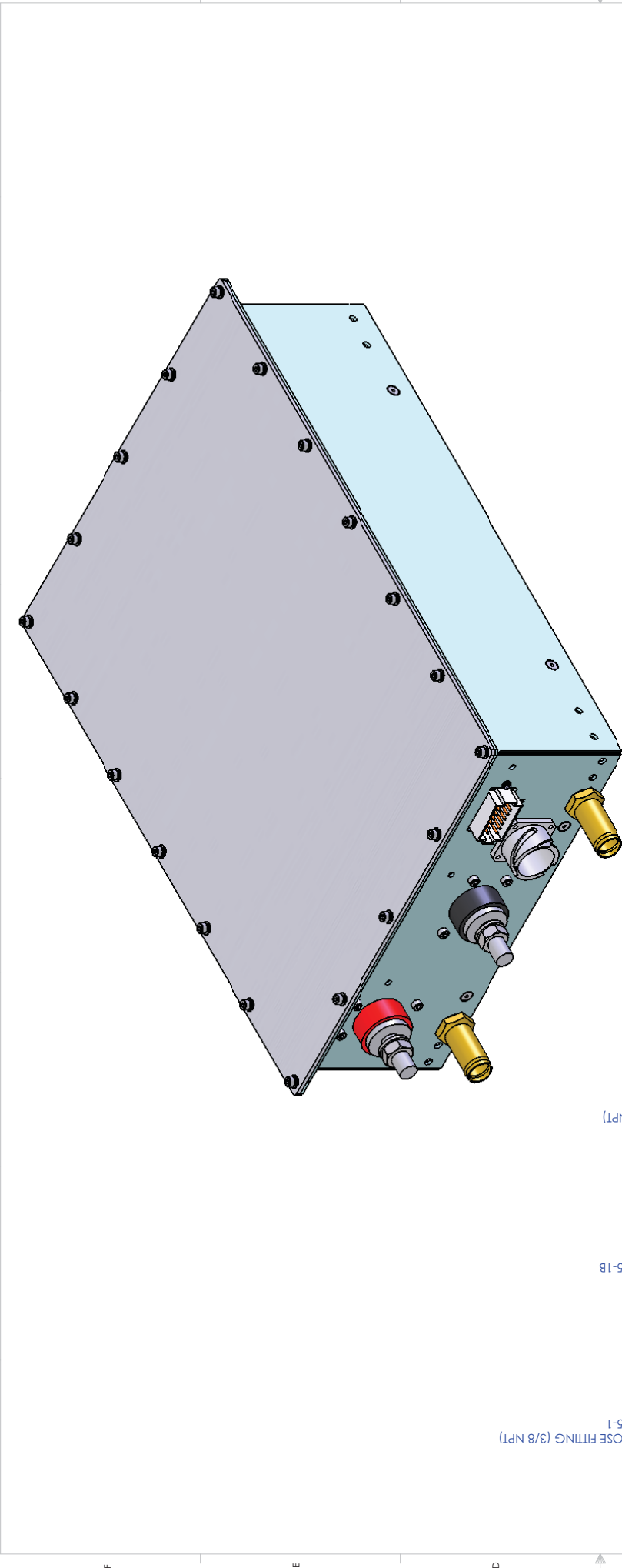


APPLICATIONS:

Fuel Cell, Battery/Ultra-Cap UPS, battery charger, Smart Grid and renewable energy systems.

Signal Connector DEUTSCH DT15-12PA	
1	Reserved.
2	ENABLE (isolated)
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
Input Power: ½" Lugs Output: ITT or Tyco.	

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	WEG < 60°C 12 Lpm
Operating temperature	-20°C to +85°C
Load de-rating	2.5% /°C from 60°C cooling
Storage temperature	-40°C to +105°C
Efficiency	> 92%
Isolation resistance	> 1 MΩ at 700Vdc
Weight	19 kg.



8X M5X0.8 MOUNTING LOCATIONS

- NOTES: UNLESS OTHERWISE SPECIFIED
1. DC/DC CONVERTER WEIGHT: 10.16 kg (22.3 lBS).
 2. COOLANT: 50/50 ETHYLENE GLYCOL / WATER.
 3. MIN FLOW: 11.4L / MIN (3.0 GPM).
 4. PRESSURE DROP: 2.65 KPa (1.4 PSI) @ MINIMUM FLOW.
 5. MAXIMUM TEMPERATURE: 50°C (122°F).
 6. INLET TEMP: 20°C TO 60°C.
 7. OPTIONAL 3/8 NPT HOSE FITTINGS: 3/4", 3/8" OR 90 DEG. FITTINGS.
 8. TORQUE: 3/8-16 - 150 LB/IN, 1/2-16 - 300 LB/IN.
 9. MATING CONNECTOR: Y/H3102E 20-22PN-B-F80 OR CA3102E0-2238-F80

NAME	DATE	REV	TITLE
DRAWN	F. ERICSON	2/24/11	US HYBRID PCM - HBC OUTLINE & MOUNTING
CHECKED			
ENG APPR.			
MFG APPR.			
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SCALE: 1:2			SHEET 1 OF 1