



US Hybrid



## Three-Phase DC-AC Converter DA02 (Export Power)

### 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: 300-700Vdc
- AC output voltage 110/220 or 220/208-3Φ 60/50/400 Hz.
- Efficiency: 94% rated, > 92% from 40% to 100% load.
- Short Circuit, OC, O/U V and OT protection.
- Stand alone operation.
- CAN command, control and diagnostics. Output voltages, frequency, Input and output current/power can be regulated or limited via CAN/Analog command. Input and
- Output voltages, currents, power and temperature reporting.
- CAN communication parameters reconfigurable by user through RS232 interface.

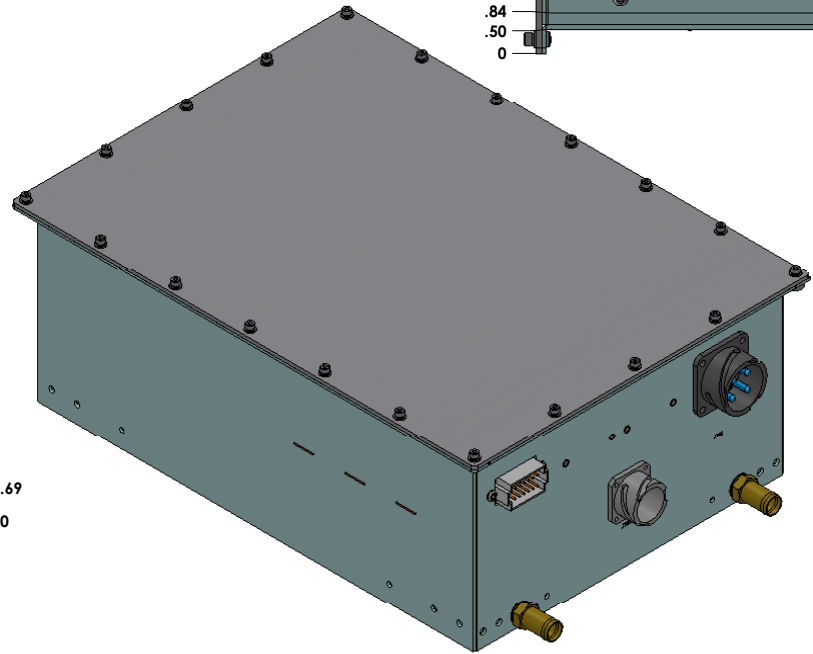
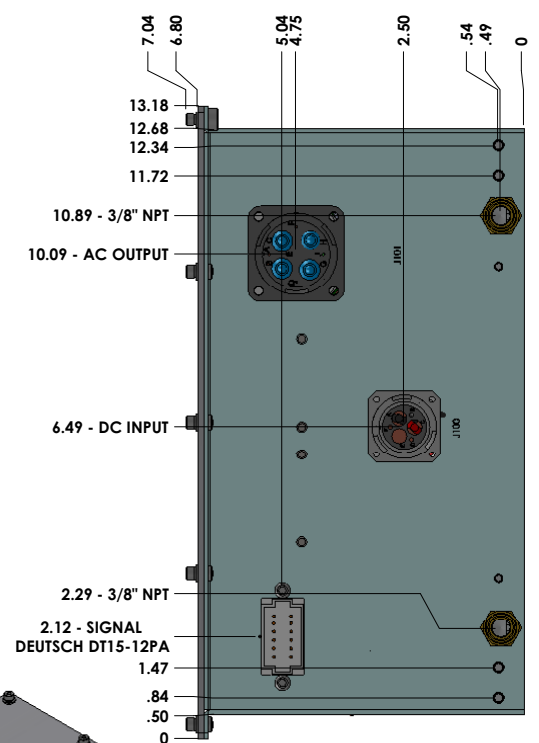
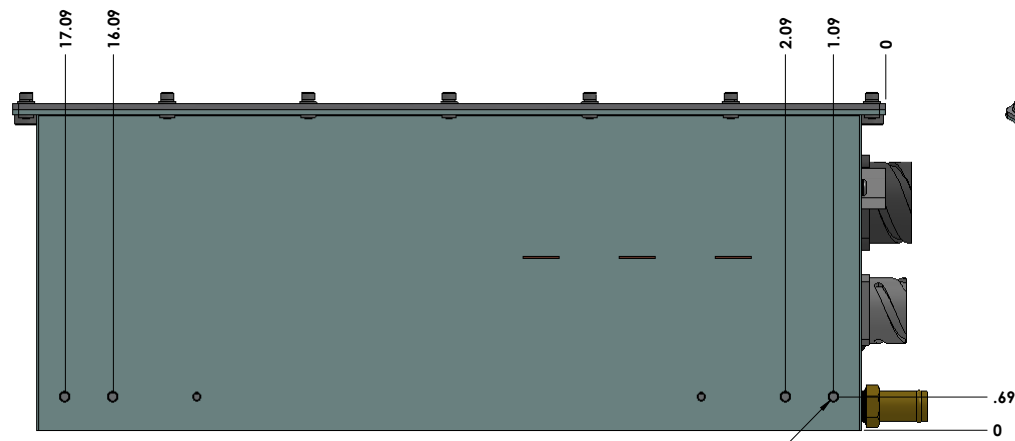
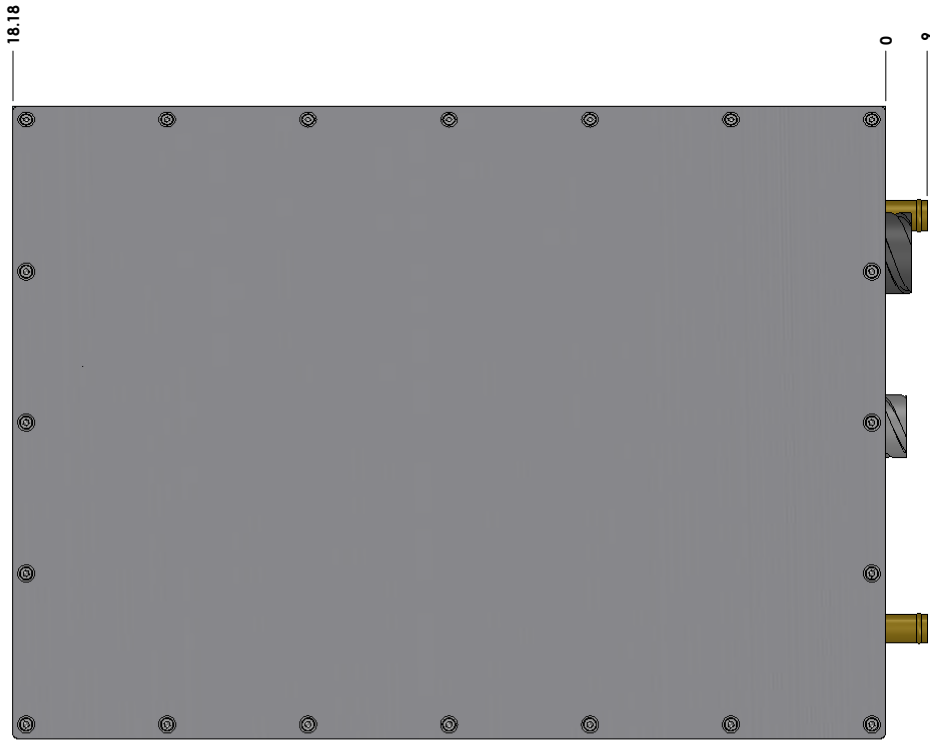


### APPLICATIONS:

Hybrid Electric and Fuel Cell Vehicles and Renewable Energy Systems.

Signal Connector: DEUTSCH DT15-12PA	
1	GND
2	PWR_ON (Opto, 10-30V)
3	12V_POS
4	12V_NEG
5	VOUT_ANALOG_CMD
6	ANALOG_RTN
7	#FAULT (active low OC)
8	CAN_H
9	CAN_L
10	RS232_RX
11	RS232_TX
12	#PROGRAM
Power Connector: ITT	

Line regulation ( $\pm 10\%$ )	$\pm 2\%$
Load regulation	$\pm 2\%$
Ripple	$< \pm 1\% + 300 \text{ mVp-p}$
Load transient (10-90%)	$< 5\%$ typical
Response time	250 ms typical
Turn-on rise time	Soft-start, 450 ms typical
Output protection	Overload and short circuit
Cooling	Liquid cooled $< 60\text{C}$ , 12 Lpm
Operating temperature	$-20\text{C}$ to $+70\text{C}$
Load de-rating	2.5% /C from $60\text{C}$ liquid
Storage temperature	$-40\text{C}$ to $+85\text{C}$
Efficiency	$> 94\%$ (40%-100% load)
Isolation resistance	$> 1 \text{ M}\Omega$ at 700Vdc
Weight	21-28 kg.



**NOTES: UNLESS OTHERWISE SPECIFIED**

1. INVERTER WEIGHT: 16.4 kg (36 LBS.).
2. COOLANT: 50/50 ETHYLENE GLYCOL / WATER.
3. MIN FLOW: 11.4L / MIN (3.0 GPM).
4. PRESSURE DROP: 14.05 kPa (2.1 PSI)@40°C.
5. INLET TEMP: -20°C TO 60°C.
6. OPTIONAL HOSE FITTINGS: 3/8", 1/2", 5/8", 3/4" OR 90 DEG. FITTINGS.

DRAWN		NAME	DATE	 <b>US HYBRID</b> TITLE: <b>30kW AUX POWER INVERTER</b> <b>OUTLINE &amp; MOUNTING</b> SIZE DWG. NO. <b>C DA020000DA</b> REV <b>A</b> SCALE: 1:2 SHEET 1 OF 1
CHECKED		F. ERICKSON	01-13-10	
ENG APPR.				
MFG APPR.				
G.A.				

DATE: 01-13-10  
 DWG: DA020000DA  
 REV: A