



US Hybrid



# Heavy Duty Integrated Electric Drive Unit “EDU240”

## PRODUCT OVERVIEW:

EDU240 is an induction motor with integrated gear reduction, desired for heavy duty electric hybrid vehicle and off-road application. High efficiency, power and torque density induction liquid cooled motor with integrated in-line gear planetary reduction unit with Dana Spicer Yoke interface. High efficiency Induction Motor design with integrated sensor and cooling. The unique design and control allow wide dynamic speed operation. The motor is offered for both medium voltage of 250-450V<sub>DC</sub> or high voltage of 450-700V<sub>DC</sub>.

## FEATURES:

- High Torque/power Density,
- Efficiency: 93%.
- 4-Quadarant Operation Motoring and Generation
- Integrated Gear Reduction
- Plug-N-Play with CEU320 (sold as a drive set only)
- Wide Dynamic range 3:1



## APPLICATIONS:

Electric drive system for class 4-6 commercial vehicles and Medium duty off-road applications.

### MODEL NUMBER:

**EDU240** □ □ □ □

Input Voltage  
M: 250-450V<sub>DC</sub>  
H: 450-700V<sub>DC</sub>

Rsvd

### Electric Drive Unit (EDU 240)

Type:	Induction Motor
Power:	240kw(322hp), at 1800 rpm, 120kw Cont.
Torque:	1300NM (960 ft-LB) up to 1800 rpm
Speed:	7,000 rpm max (Bi-direction)
Cooling:	Liquid, 16L/Min, 60°C, Max inlet
Weight:	290Kg(640 LB)

### Integrated Gear Reduction Unit

Type:	Single stage concentric gear reduction
Lubrication:	Self-contained oil lubrication
Weight:	68Kg(140 LB)
Gear Ratio:	2.93:1

### Control Electronic Unit (CEU320)

Advanced IGBT semiconductors in a compact proprietary packaging.

Input:	250-450 V <sub>DC</sub> or 450Vdc to 700 V <sub>DC</sub>
Output:	320 kW, Maximum, 180kW cont.
Efficiency:	>97%
Cooling:	-20 deg C to +60 deg C, 50/50 WEG/H2O Water, 16 L/min
Weight:	41 Kg (90 lbs)

Control Digital Field Oriented Control (FOC) algorithm. Master/Slave for multiple axles drive support.

DATA SHEET REV: 1302, Specifications subject to change.

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

Integrated Components Solutions for Clean Mobility & Energy Conservation

# Traction Control Electronic Unit “CEU320”

## PRODUCT OVERVIEW:

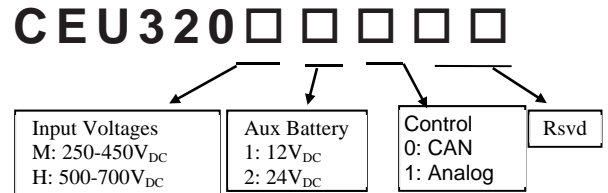
The Control Electronic Unit (CEU320) is a compact high power controller targeted for the EDU240 and EDU320 motor drive. This converter is designed for high efficiency through the use of state of the art semiconductor components. Integrated control software enables fast response times and safe operation. .

## FEATURES:

- 320kW Traction Motor drive controller
- 4-Quadrant Operation
- Compact Integrated packaging
- DC Input Voltage Range: 200-450V<sub>DC</sub> or 450-700V<sub>DC</sub>
- Dual CAN bus, J1939 compatible
- Remote wireless communication and diagnostics.
- Short Circuit, OC, O/U V and OT protection.
- Configuration management via CAN and RS232 interface.



## MODEL NUMBER:



## APPLICATIONS:

Medium Duty Hybrid Vehicle Systems for Commercial (class 4-6), Military and off-road Applications. Stationary and mobile power generation.

### Control Electronic Unit (CEU320)

Advanced IGBT semiconductors in a compact proprietary packaging.

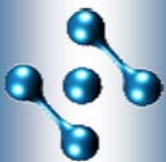
Input:	250-450 V <sub>DC</sub> or 450V <sub>DC</sub> to 700 V <sub>DC</sub>
Output:	320 kW, Maximum, 120kW cont.
Efficiency:	>97%
Cooling:	-20 °C to +60 °C, 50/50 WEG/H2O Water, 16 L/min
Weight:	41 Kg (90 lbs)
Control	Digital Field Oriented Control (FOC) algorithm. Master/Slave for multiple axles drive support.
Environmental	IP65 rated (IP67 Optional)
Connectors	Proprietary Direct Connection Design
Diagnostics	CAN J1939 and RS232

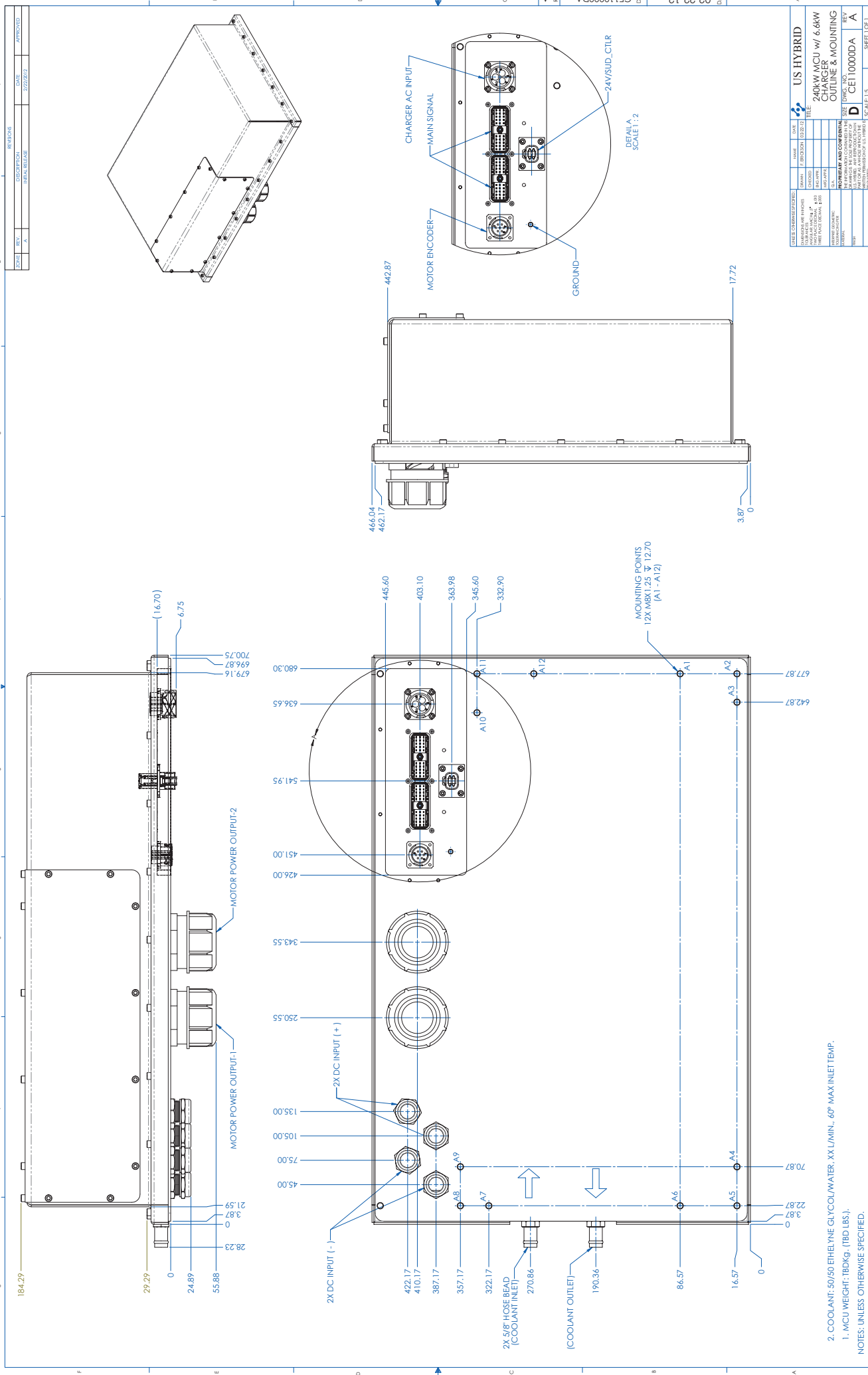
DATA SHEET REV: 1302, Specifications subject to change.

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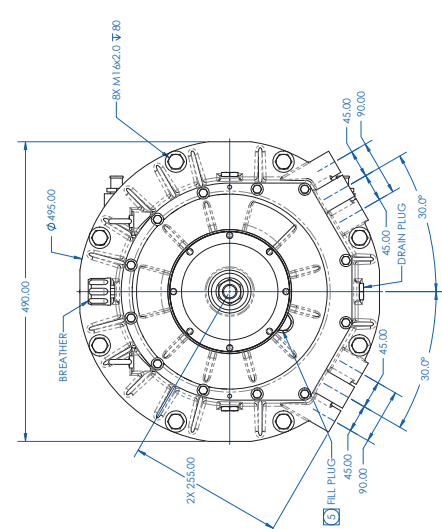
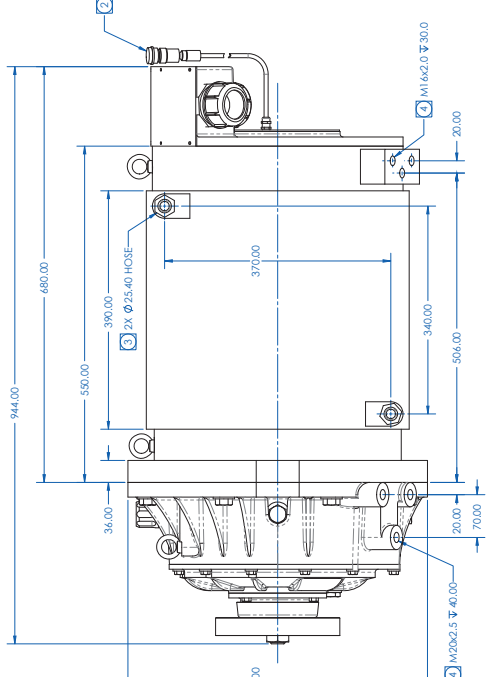
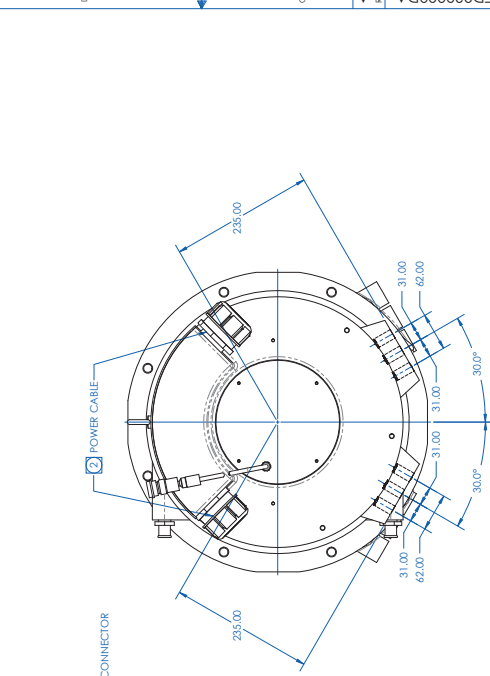
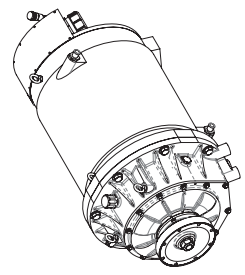
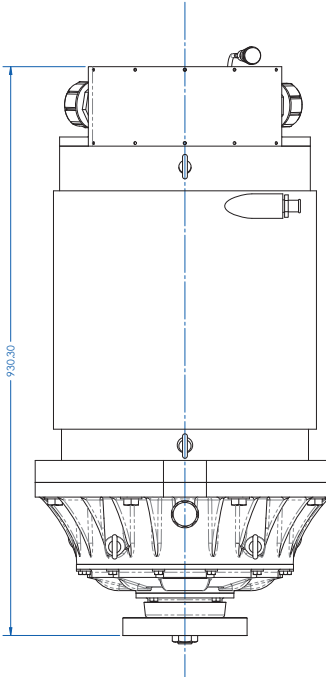
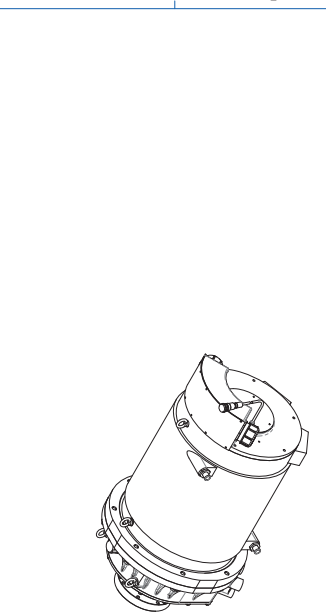
REV	DATE	DESCRIPTION	APPROVED
A	07/27/2012	INITIAL RELEASE	

DATE	NAME	DATE
02/22/12	CEI10000DA	02/22/12

US HYBRID  
 TITLE: 240kW ACU w/ 6.6kW CHARGER OUTLINE & MOUNTING  
 DWG. NO.: CEI10000DA  
 SCALE: 1:5  
 SHEET 1 OF 1

2. COOLANT: 50 ETHYLENE GLYCOL/WATER. XX L/MIN., 60° MAX INLET TEMP.  
 1. MCU WEIGHT: TBD Kg. (TBD LBS.)  
 NOTES: UNLESS OTHERWISE SPECIFIED.

ZONE	REV.	DESCRIPTION	DATE	APPROVED



- 7. TERMINAL CONNECTIONS: WHITE-U, BLACK-V, BLUE-W
  - 6. REDUCTION GEAR RATIO: 2.93:1
  - 5. FILL WITH: MOBIL SHC 75W-90 SYNTHETIC GEAR OIL  
SAE 75W-90, API SERVICE MT-1, GL-5, AMOUNT: 2.75 LITERS.
  - 4. MOUNTING LOCATIONS, THREE(3) EACH SIDE.
  - 3. COOLANT: 50/50 ETHYLENE GLYCOL/WATER, 18 LITERS/MIN. 65 °C MAX INLET TEMP.
  - 2. CABLE LENGTH TO BE DETERMINED PER VEHICLE APPLICATION.
  - 1. WHIGHT: APPROX. 363kg. (800lbs)
- NOTES: UNLESS OTHERWISE SPECIFIED.

TABLE NUMBER	NAME	DATE	TITLE

DESIGNED BY	CHECKED BY	DATE

SCALE	UNIT	DESCRIPTION

REV.	DESCRIPTION	DATE