SERVICE MANUAL SECTION

Advanced Energy Hybrid CE Model Starting March, 2007 — ELECTRICAL CIRCUIT DIAGRAMS

Model: CE Bus

S08328

04/02/2007

Table of Contents

1. SAFETY INFORMATION

Portions of the circuitry in these circuit diagrams contain high voltages. Only trained technicians should perform maintenance on this circuitry. High voltage circuits will be identified by orange cables or conduit, but all circuits should be treated as potentially dangerous. Refer to TSI 06-08-05, https://evalue.internationaldelivers.com/service/tsipdf/060805.pdf, for proper procedures in dealing with high voltage circuits.

WARNING – To avoid property damage, personal injury or death, refer to the manufacturer's service information before working on any high voltage equipment. By definition high voltage circuits and components contain voltage levels that may cause equipment damage, electrical shock and/or electrocution if handled incorrectly.

Only a trained technician may perform service inside high voltage components. If you work around or maintain high voltage circuits, please seek high voltage training.

WARNING – To avoid property damage, personal injury or death, circuits must be checked using a voltmeter for the presence of both dc and ac voltages. A voltmeter set to dc will not indicate the presence of an ac voltage when connected to an ac circuit! Contacting an unknown ac or dc voltage may cause equipment damage, electrical shock and/or electrocution.

Only a trained technician may perform service inside high voltage components. If you work around or maintain high voltage circuits, please seek high voltage training.

WARNING – To avoid personal injury or death, permit only trained responsible and capable persons to operate or maintain the equipment. Carelessly operating or neglecting maintenance despite the safe design of any vehicle and its high voltage equipment may result in personal injury or death.

The danger of injury through electrical shock is possible whenever electrical power is present. Most fatal injuries result from high-voltage exposure; however, people can sustain severe injuries from low voltage power if it has a high current flow.

2. CIRCUIT DIAGRAMS

NOTICE

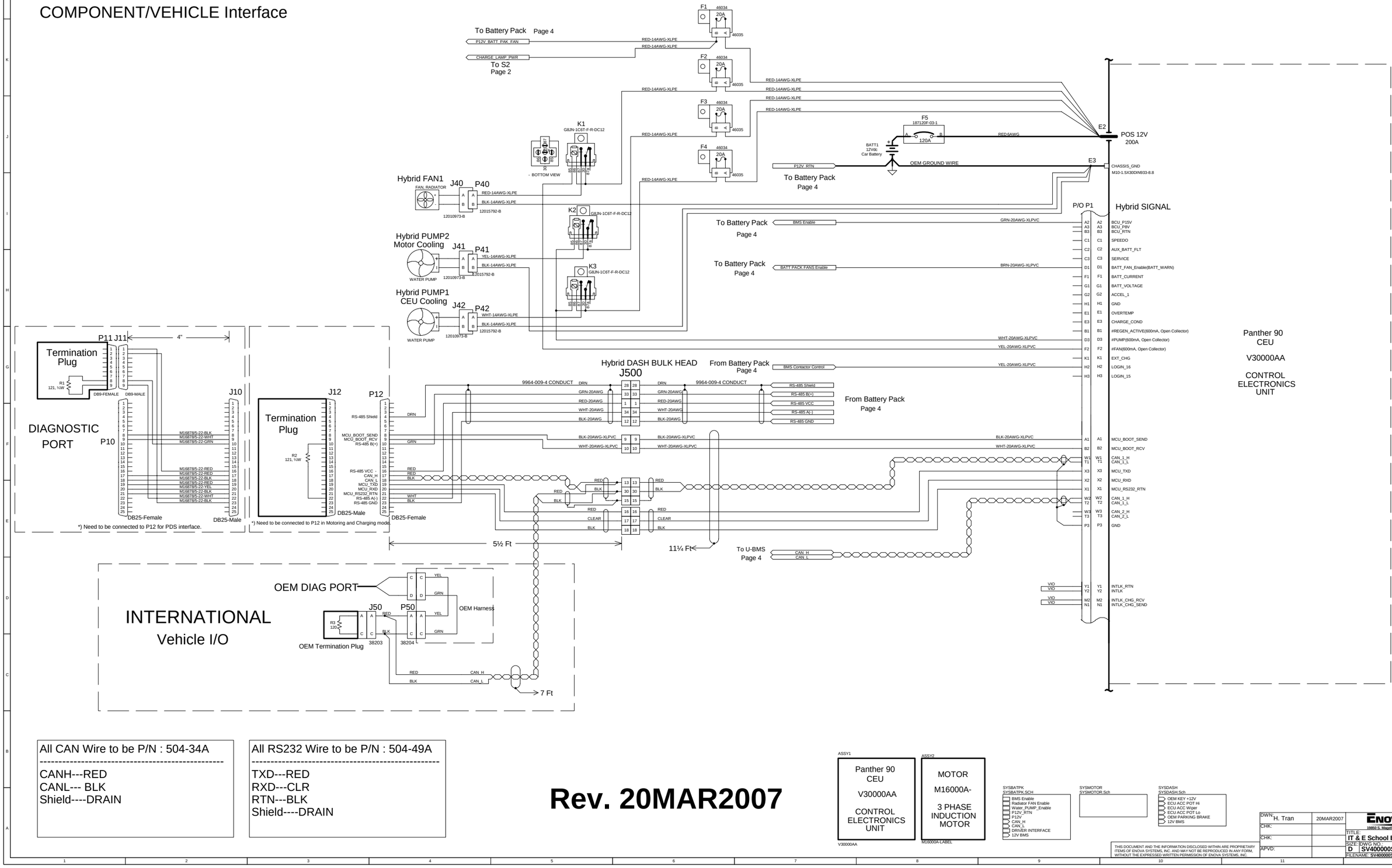
The information supplied herein has been furnished by the manufacturer and/or the supplier for use with its product. International Truck and Engine Corporation reprints this information based on representations made to the Company by the manufacturer and/or supplier and is not responsible for any errors or mishaps resulting from such errors or from any misuse of the product. Every user is urged to carefully follow the instructions which accompany the product.

Additional information on this system can be obtained by visiting: http://www.enovasystems.com

Advanced Energy Hybrid School Bus Drive System Schematic

REV	DESCRIPTION	RELEASE	DATE
-	Initial Release		

COMPONENT/VEHICLE Interface



All CAN Wire to be P/N : 504-34A
CANH---RED
CANL--- BLK
Shield----DRAIN

All RS232 Wire to be P/N : 504-49A
TXD---RED
RXD---CLR
RTN---BLK
Shield----DRAIN

Rev. 20MAR2007

ASSY1: Panther 90 CEU, V30000AA, CONTROL ELECTRONICS UNIT — V30000AA

ASSY2: MOTOR, M16000A-, 3 PHASE INDUCTION MOTOR — M16000A-LABEL

SYSBATPK SYSBATPK.SCH: BMS Enable, Radiator FAN Enable, Water_PUMP_Enable, P12V_RTN, P12V, CAN_H, CAN_L, DRIVER INTERFACE, 12V BMS

SYSMOTOR SYSMOTOR.Sch

SYSDASH SYSDASH.Sch: OEM KEY +12V, ECU ACC POT Hi, ECU ACC Wiper, ECU ACC POT Lo, OEM PARKING BRAKE, 12V BMS

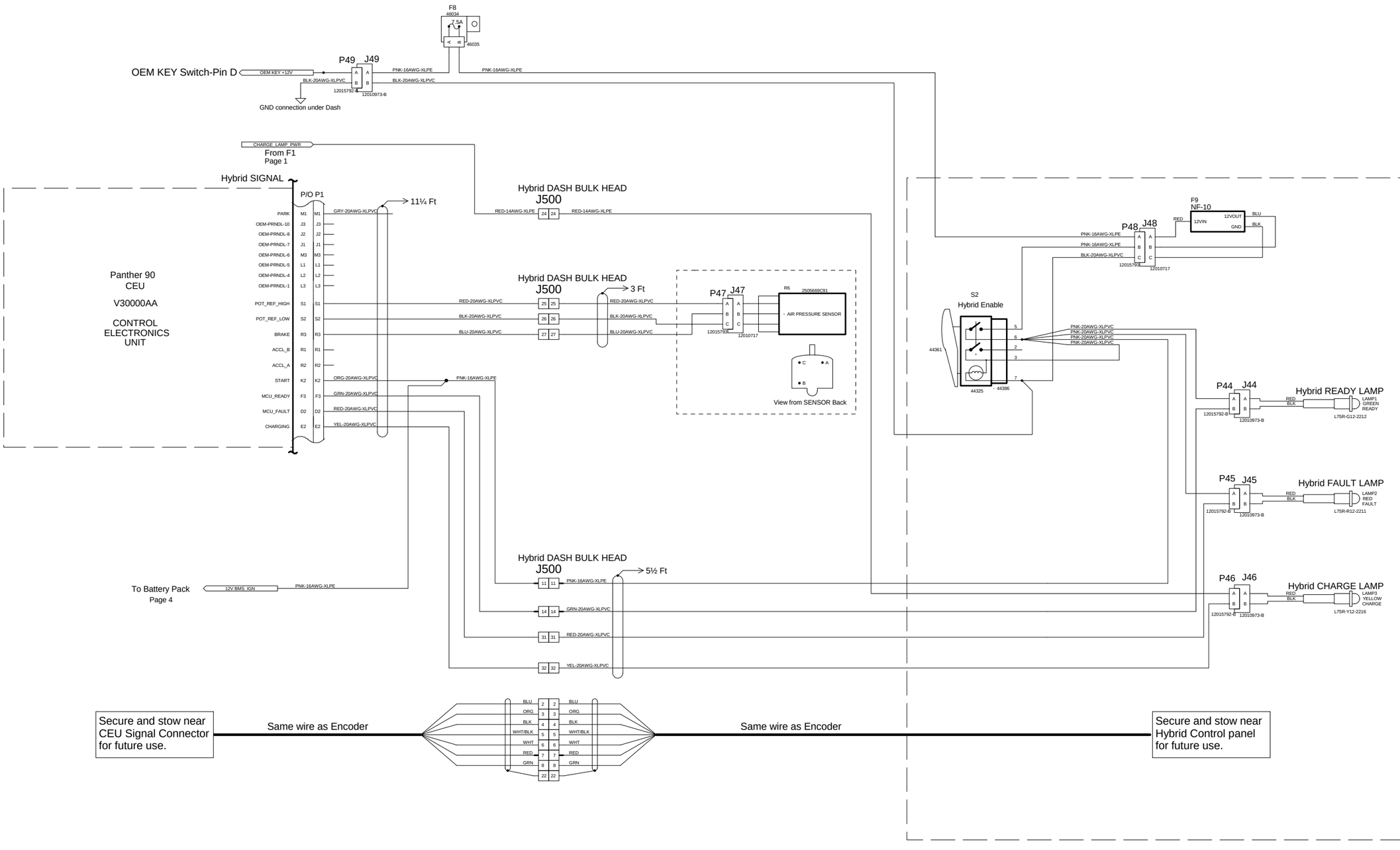
DWN: H. Tran 20MAR2007
CHK:
CHK:
APVD:

ENOVA SYSTEMS — DIGITAL POWER MANAGEMENT
19850 S. Magellan Dr.Torrance, CA 90502, USA

TITLE: IT & E School Bus Hybrid Drive System Schema

SIZE: D | DWG NO.: SV400000S-prj | Sheet 1 of 4

FILENAME: SV400000S-.prj | FORM REV.: 27-Dec-2001



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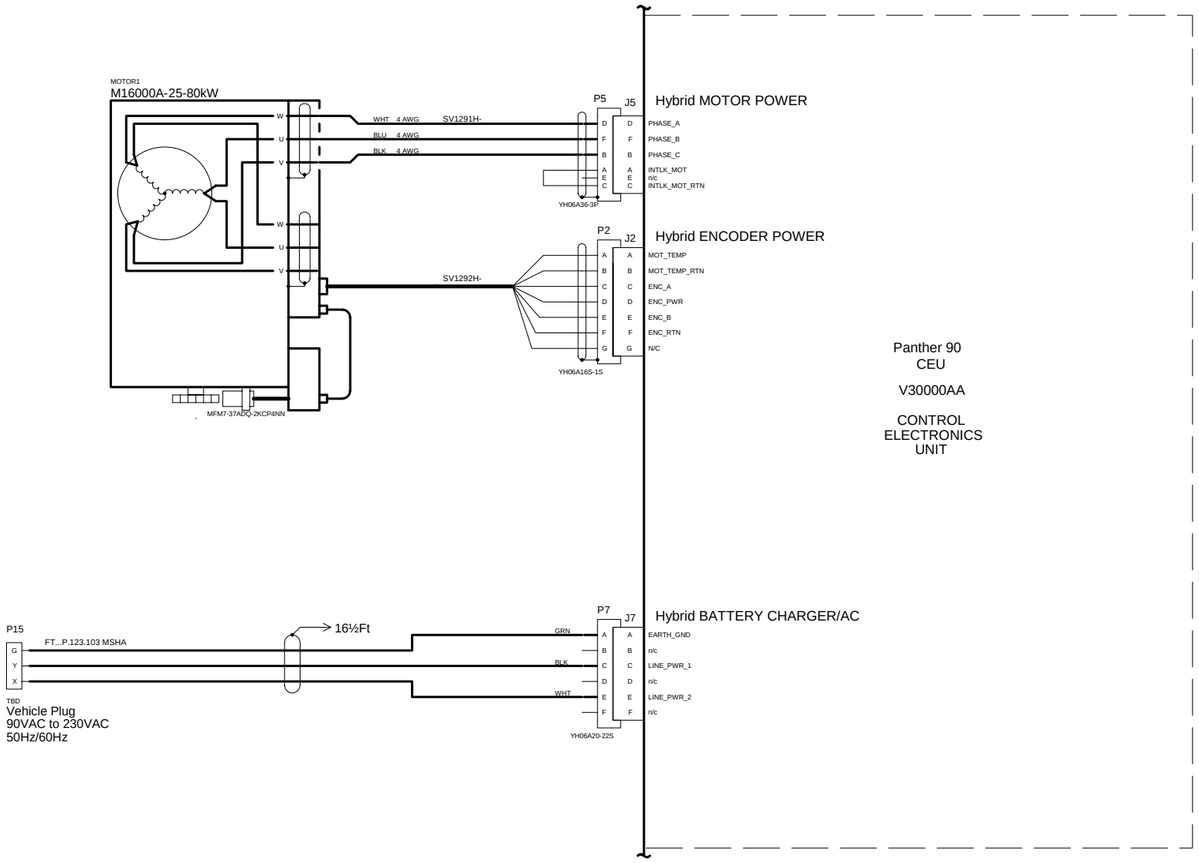
19850 S. Magellan Dr,Torrance, CA 90502, USA

TITLE: **International POC Hybrid Drive System Schema**

SIZE: D | DWG NO. SV400000S- | Sheet 2 of 5

FILENAME: SYSDASH-Sch | FORM REV.: 27-Dec-2001

DWN: H. Tran | 20MAR2007



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DWN: H. Tran 20MAR2007

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19850 S. Magellan Dr,Torrance, CA 90502, USA

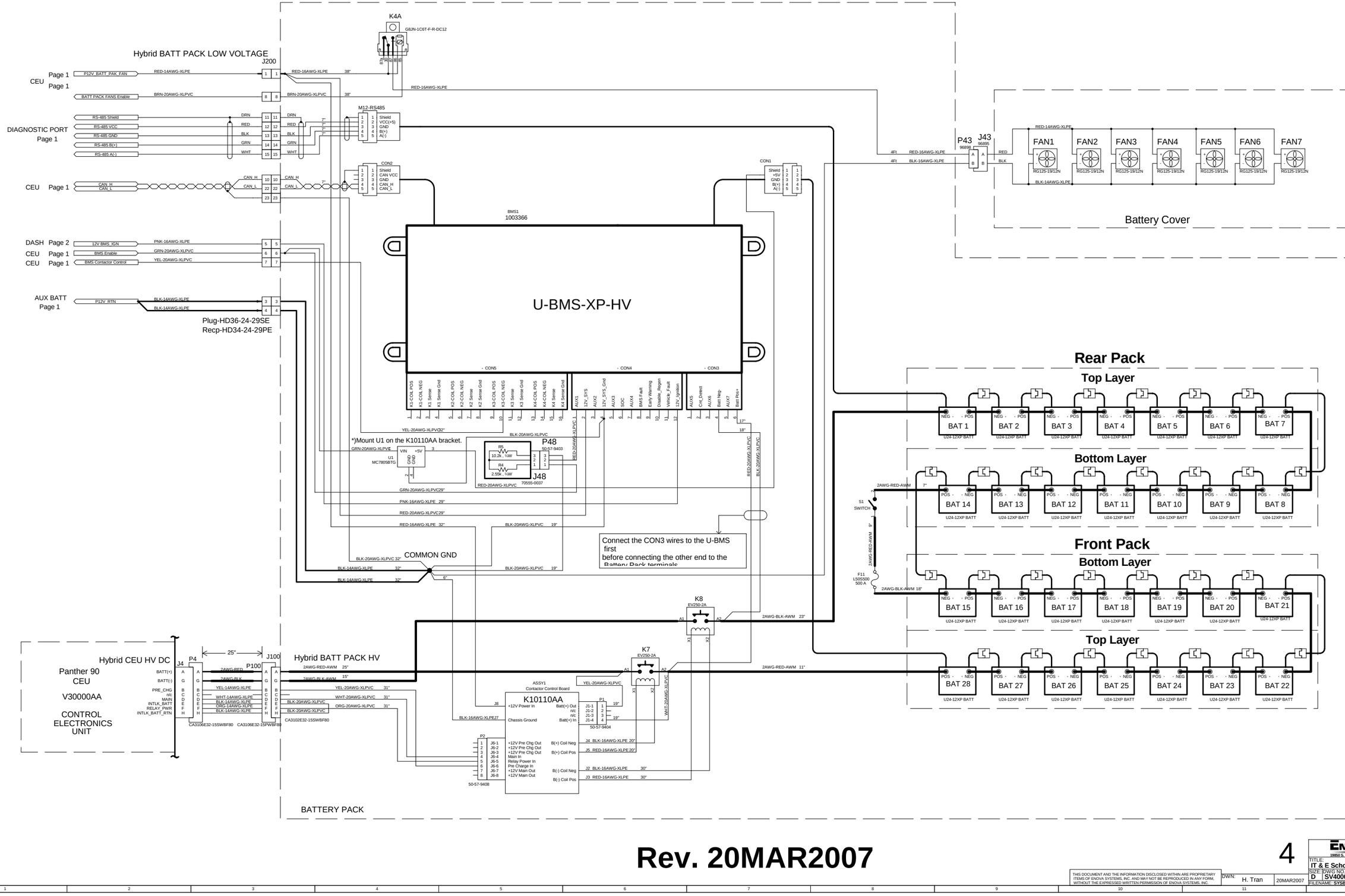
TITLE: IT & E School Bus Hybrid Drive System Schema

SIZE: D | DWG NO.: SV400000S- | Sheet 3 of 4

FILENAME: SYSMOTOR.Sch

FORM REV.: 27-Dec-2001

Typical Multiple Battery Boxes & U-BMS Interface Configuration & High Voltage Distribution.



Rev. 20MAR2007

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DWN:		
H. Tran	20MAR2007	

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TITLE: IT & E School Bus Hybrid Drive System Schema

SIZE: D | DWG NO.: SV400000S- | Sheet 4 of 4

FILENAME: SYSBATPK.SCH | FORM REV.: 27-Dec-2001