BAT104-NiCd
Manual

Battery Backup Module
For
HESC Series Power Supplies

Manufactured by
TRI-M ENGINEERING
Engineered Solutions for Embedded Applications

Technical Manual

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This manual is for integrators of applications of embedded systems. It contains information on hardware requirements and interconnection to other embedded electronics.

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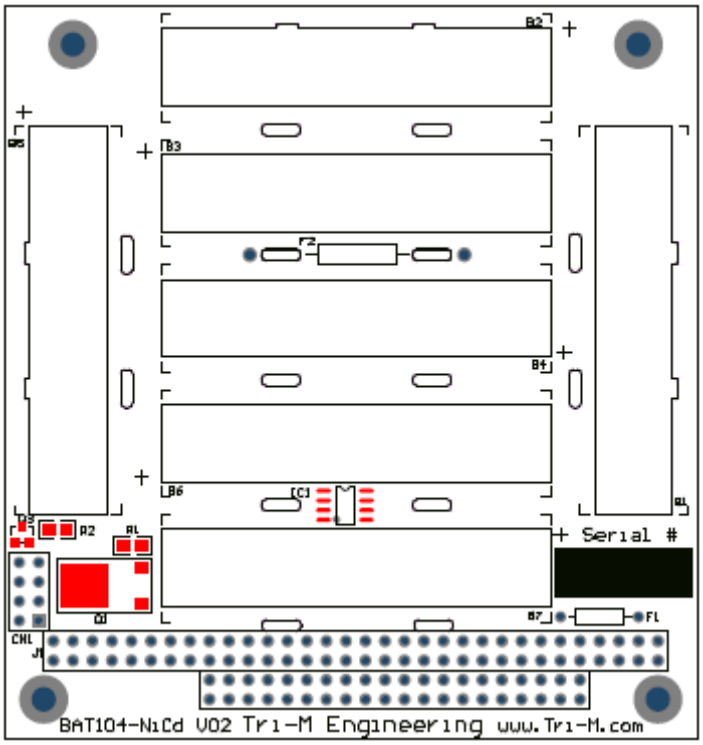
CHAPTER 1: GENERAL DESCRIPTION

The BAT104-NiCd creates a complete UPS system by plugging directly into the bottom of the HESC (including the V5SC-SER) Vehicle Power Supplies. The BAT104-NiCd includes seven 600ma-hr NiCd batteries for a total of 5 watt-hours of power. Therefore a BAT104-NiCd can supply backup power for up to sixty minutes to a 5 watt load.

The BAT104-NiCd includes Mosfet transistors for preventing deep discharge occurrences during extended power outages. The Mosfet transistors electrically isolate the BAT104-NiCd from the HESC whenever the BE output of the HESC is de-asserted (pulled to 5V)

The BAT104-NiCd has both a thermal fuse and a current fuse for protection against overcharging, and shorts on the battery output.

A digital I^2C temperature sensor provides temperature feedback for charge termination, which can be read by the HESC.

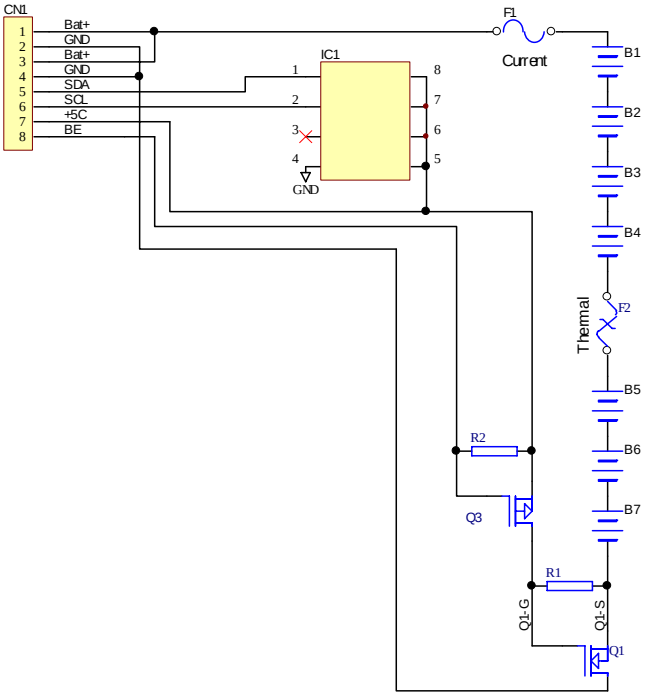


CHAPTER 2: CONFIGURATION AND INSTALLATION

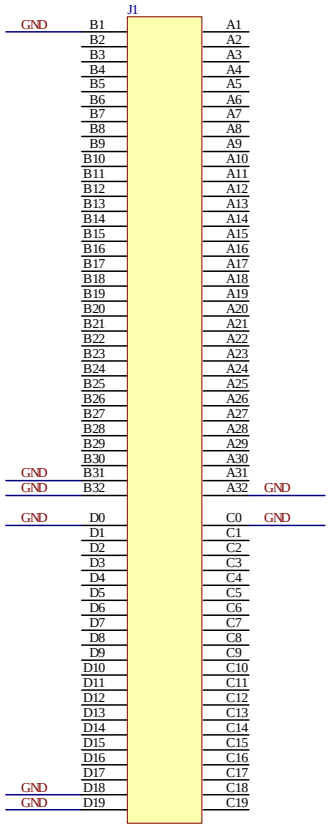
2.1 Installing the BAT104-NiCd

The BAT104-NiCd mounts directly to the bottom of an HESC product by plugging CN1 and J1 into the mating connectors on the bottom of an HESC unit. Four 0.6" standoffs are required (one per corner) to separate the BAT104-NiCd and the HESC unit.

CHAPTER 3: BAT104-NiCd Schematic



Batteries, Protection Fuses, Mosfets & I²C Temperature Sensor



PC/104 Bus