

EXTERNAL BATTERY CHARGER & HEATERS CONTROLLER

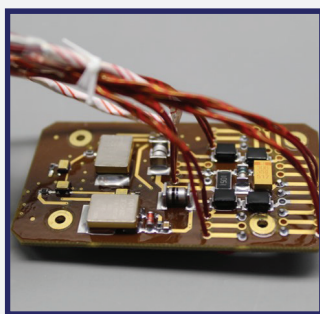
PRODUCT BRIEF

Argotec EBC&HC is a rad-hard subsystem designed to manage micro-satellite batteries during long cruise phases. The unit features two independent heater power rails, remote temperature sensing and hot-redundant battery charge circuitry. The subsystem can operate from -30°C to $+70^{\circ}\text{C}$, it is EMC qualified and EEE parts feature a TID rating of at least 100krad and SEL immunity up to $75\text{MeV}\cdot\text{cm}^2/\text{mg}$. The unit is designed to be mounted directly on micro-satellite dispensers, with no shielding requirements with respect to the deep space, and has a mass of 1,3Kg.



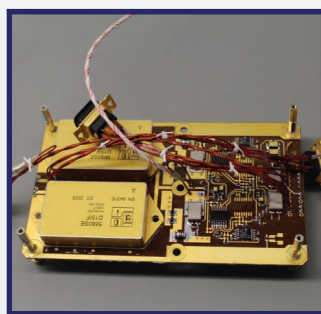
HEATERS MANAGEMENT

The unit is capable to control two independent heaters. Each line can be powered by a non-regulated bus between 22V and 34V, with up to 150W of combined power. The unit embeds heaters duty-cycle management with respect to programmable temperature thresholds for both cruise and pre-deployment phases.



BATTERY MANAGEMENT

The unit is capable of charging batteries with a voltage of up to 30V. The battery charger can be powered by a non-regulated bus between 22V and 34V. The unit includes end-of-charge detection mechanism in order to avoid overcharging. The battery charging circuitry is hot-redundant and an umbilical port is available to monitor battery voltage during ground AIT activities.



RUGGED DESIGN

The subsystem is enclosed in a robust aluminum chassis developed to allow the installation on the exterior of carrier crafts, with the option of direct mounting on micro-satellite dispensers. The chassis is internally divided in two hermetic cavities to isolate the battery charger from the heater controller.

