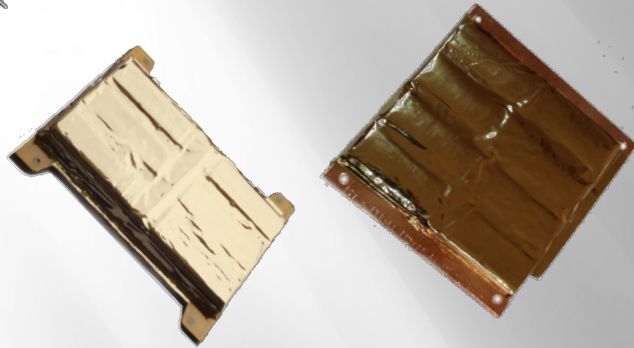




BA0X: 1U HIGH CAPACITY BATTERY ARRAYS



As thin as 7 millimeters, the EXA BA0x High Capacity Battery Array is a family of power store/delivery devices designed to provide the highest energy density and redundancy for your cubesat mission

From a minimum of 19.9Whr to a maximum of 53.2Whr per bank. For missions like 1U Cubesats, the BA0x enables your system to perform longer and better than even a 3U mission

FLIGHT HERITAGE

Our batteries have flight heritage since 2013 in 2 missions still in orbit and have been selected to fly in 3 more upcoming U.S. missions from 2017 to 2019. Almost 4 years now our first batteries are still in service.

SUPER THIN AND COMPACT

Fully compatible with ISIS and Pumpkin structures, they have an impressive 7 mm thickness, the thinnest batteries available.

SCALABLE AND USER CONFIGURABLE

Our batteries can be connected in series or parallel between them and the output is user configurable on each battery to supply 3.7V or 7.4V depending on the user needs

REUSE YOUR OWN HEAT

Our unique Thermal Transfer Bus based on carbon nanotubes and graphite allows you to route the waste heat from your electronics and use it to warm your batteries without using active heaters and at the same time cooling your payload. The combination of graphite and lithium in the batteries also turns them into an excellent radiation shields, protecting your electronics from harsh radiation environment, allowing a 10-fold cost reduction on your mission's financial budget.

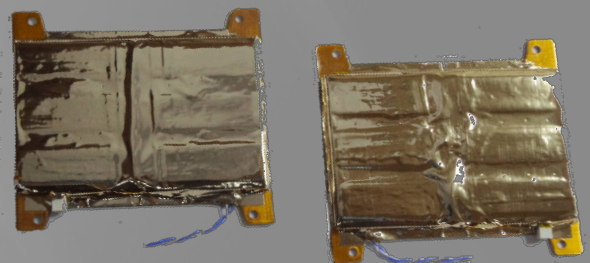
Why settle for less when you can have the best?

PROPERTIES

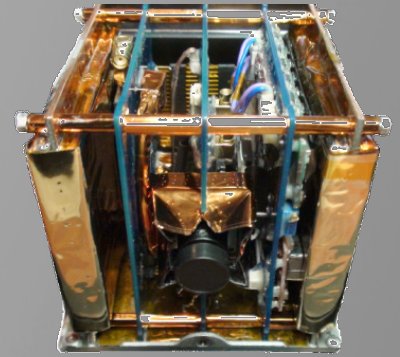
Mass (depends on configuration)			
Model	Simple	w/MT01	# of Cells
BA01/S	85g	92.5g	8
BA01/D	155g	N/A	16
BA02/S	115g	122.7g	6
BA02/D	180g	N/A	12

PERFORMANCE

Performance:			@BOL
Model	Voltage	Current	Power
BA01/S	3.7V	7200 mAh	26.6Whr
BA01/D	3.7/7.4V	14400mAh	53.2Whr
BA02/S	3.7V	5400 mAh	19.9Whr
BA02/D	3.7/7.4V	10800mAh	39.9Whr



BA0X: TECHNICAL INFORMATION (1)



HIGHLIGHTS

- Very thin: Only 7 mm single sided and 14 mm double sided
- Powerful: Can power from 1U to 27U missions
- Unique containment technology prevents swelling in vacuum
- Configurable: As serial or parallel (3.7V or 7.4V) user configurable
- Perfectly coupled with our DSA Deployable Solar Arrays
- Multiple redundant cells ensures mission survivability
- Multiple BA0x can be connected in series or parallel enabling ultra high power missions
- Designed for LEO missions and requirements
- Stand alone charge port available
- Space heritage from NEE-01 PEGASUS, NEE-02 KRYSAOR and IRVINE01
- Manufactured with space grade materials according to space standards and custom mission design
- Functional, performance, thermal bake out and vibration tests provided with documentation.
- Compatible with ISIS and Pumpkin Structures and compliant to CubeSat Standard
- Charging cables provided by default and custom Interface available

FEATURES

Typical internal resistance:

1 to 7 milliohms @ 25°C

High discharge rate:

20 times the nominal capacity within 2 seconds

High speed charge rate:

3 times the nominal capacity

Operating Temperature:

-30 to +80°C w/o CN/TTB option

-60 to +120°C w/ CN/TTB option

Radiation Tolerance:

2 years minimum in LEO

4 years minimum if S/C has NEMEA shielding

Interface: Normally Molex PicoBlade/PicoSpox inline 2 pin/4 pin connector with gold plated contacts or Samco multi pin gold coated interface, PTFE (Teflon) space grade cables, single strand, silver plated copper (AWG22 to AWG24)

QUALITY CONTROL

TESTS	QT	AT
Functional	✓	✓
Vibration	✗	✓
Thermal Cycling	✗	✓
Thermal Vacuum	✗	✓
Cable/Conn. Integrity	✓	✓
Conn. polarity	✓	✓
Freezing/Overheating	✓	✓
Performance	✓	✓

QT and AT are performed on the unit to be shipped

CUSTOMIZATION

Each BA0x is tailored to the mission needs with customer's choice of cables, connectors, harness, shielding and output. Detailed blueprints, 3D PDFs, STEP and SolidWorks files can be provided on demand.

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