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.

Why settle for less when you can have the best?

**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.
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

<table>
<thead>
<tr>
<th>TESTS</th>
<th>QT</th>
<th>AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vibration</td>
<td>✖</td>
<td>✔</td>
</tr>
<tr>
<td>Thermal Cycling</td>
<td>✖</td>
<td>✔</td>
</tr>
<tr>
<td>Thermal Vacuum</td>
<td>✖</td>
<td>✔</td>
</tr>
<tr>
<td>Cable/Conn. Integrity</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Conn. polarity</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Freezing/Overheating</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Performance</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

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.

CONTACT US:

Email: cco@exa.ec
Web: http://exa.ec
Twitter: https://twitter.com/EXA_ec
Facebook: https://www.facebook.com/Agencia.Espacial.Ecuatoriana/
LinkedIn: https://www.linkedin.com/company/ecuadorian-space-agency

Cdra Nva Kennedy, Calle C #130
Guayaquil - Ecuador
Phone: +593-999-429106
Fax: +593-42-836098