

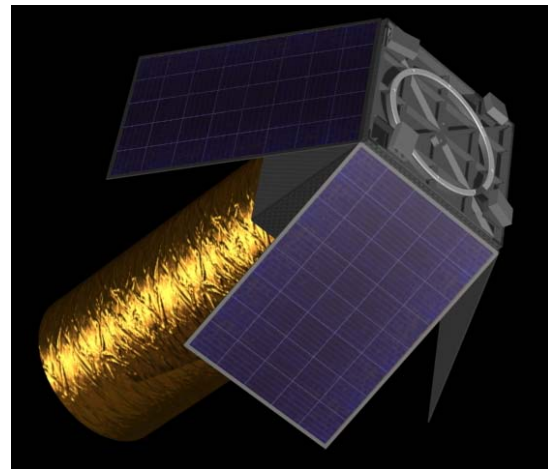


## IMI-101 Miniature 3-Axis Reaction Wheel Product Specification (5-22-2008)

The IMI-101 is a 3-axis Miniature Reaction Wheel (MRW) in a hermetically sealed 3" x 3" x 2.75" enclosure. It is suitable for up to about 20lbs Nanosatellite applications requiring precise 3-axis pointing such as is required for Earth imaging or Celestial pointing. In the same family of products are the IMI-100 complete ADACS system, and the IMI-200/201 for larger spacecraft.



IMI-101 Flight Units to be flown on AFRL's University Nanosat 4 CuSat in 2009



Typical Nanosat Application

Torque and momentum storage have been sized for a micro or nano-spacecraft in a high agility application. For example, the IMI-101 can slew an Earth imaging CubeSat size spacecraft to rapidly retarget between successive aim points, each located  $\pm 30^\circ$  off track.

### IMI-101 Specifications

<b>Momentum Storage</b>	<b>1.1 mNms</b>
<b>Maximum Torque</b>	<b>0.635 mNm</b>
<b>Command and TLM</b>	<b>RS-232</b>
<b>Dimensions</b>	<b>3" x 3" x 2.75" (24.75 in<sup>3</sup>)</b>
<b>Weight</b>	<b>1.41 lb (640 gm)</b>
<b>Operating Temperature</b>	<b>-40C to +80C</b>
<b>Vibration</b>	<b>&gt; 10 g rms</b>
<b>Radiation</b>	<b>Pending</b>
<b>Power Supply</b>	<b>12 – 28 vdc @ 200 ma</b>





typical, 360 ma max

## Mechanical Interface

For mounting IMI-101 an interface plate can be supplied. This is shown below.

