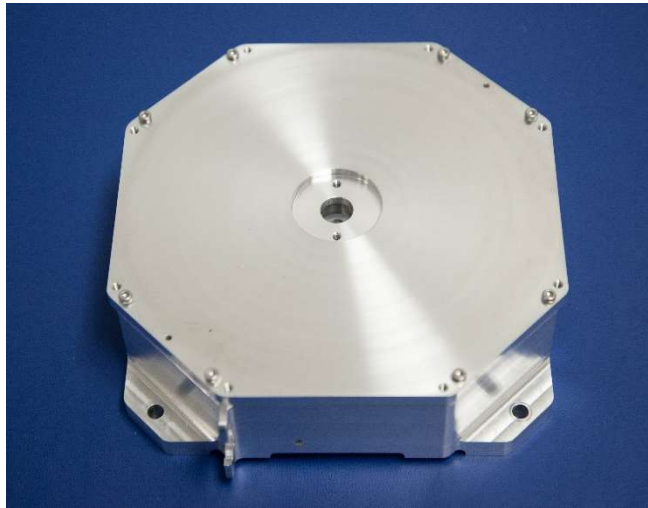
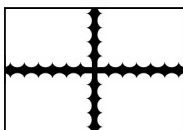


# GEO Reaction Wheels (RW4-1.0)

Rev 2019a



<b>Momentum</b>	Nominal: 1.0 Nms	
<b>Torque</b>	±50 mNm at 1 Nms (at 28 V supply)	
<b>Control Mode</b>	Speed, torque or current with built-in control CPU	
<b>Command / Telemetry</b>	Redundant RS-485, with galvanic isolation from primary	
<b>Mechanical</b>	Dimensions: 154 mm x 146 mm x 45 mm	Mass: 1380 g
<b>Supply Voltage</b>	Nominal: 24 V to 34 V	Maximum: 50 V
<b>Supply Power (in vacuum)</b>	46.7 W @ 1.0 Nms, +40 mNm 15.1 W @ 1.0 Nms, steady state 2.4 W @ 0.2 Nms, steady state -29.1 W @ 1.0 Nms, -100 mNm regenerative braking	
<b>Environment</b>	Thermal: -40°C to +70°C (operating) Vibration: >14 g <sub>RMS</sub>	
<b>Radiation</b>	> 60 krad Total Dose under 3 mm Al chassis shielding Heavy ion tested to 50 MeV-cm <sup>2</sup> /mg, LDRS tested Hardware TMR on all flip-flops, EDAC on all RAM	
<b>Reliability</b>	Diamond coated hybrid ball bearings Redundant motor windings Active neutralization of rotor static charge	
<b>Heritage</b>	Mechanical design from RW3-1.0, with 52 Units on-orbit. First flight deliveries December 2019	
<b>Price</b>	US\$80,000 each	



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