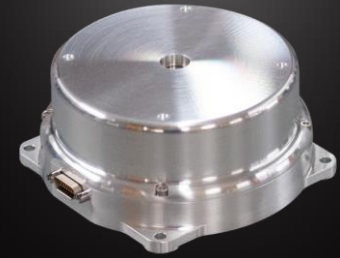


# REACTION WHEEL

## RW-0.2/0.4 Data Sheet

Version 3.0 – 2024-08-02



|                              |   |   |
|------------------------------|---|---|
| <b>MOMENTUM</b>              | Nominal: $\pm 0.2$ Nms (light rotor) or $\pm 0.4$ Nms (heavy rotor)   |   |
| <b>TORQUE</b>                | $\pm 100$ mNm (see below torque-box)  |   |
| <b>CONTROL MODE</b>          | Speed or Torque   |   |
| <b>COMMAND/TELEMETRY</b>     | Redundant RS-485  |   |
| <b>MECHANICAL</b>            | Dimensions: 105 mm x 103 mm x 46 mm<br>Mass: 0.6 kg max (0.2 Nms) or 0.75 kg max (0.4 Nms)                    |   |
| <b>IMBALANCE (average)</b>   | Static: 2 g·mm<br>Dynamic: 30 g·mm <sup>2</sup>   |   |
| <b>SUPPLY VOLTAGE</b>        | 24 V to 34 V (nominal 28 V)   |   |
| <b>POWER (28 V in VACCU)</b> | <b>(0.2 Nms):</b> See below current plot<br>2.8 W @ 0.2 Nms, steady state<br>112 W @ 0.2 Nms, +100 mNm torque | <b>(0.4 Nms):</b> See below current plot<br>3.5 W @ 0.2 Nms, steady state<br>118 W @ 0.2 Nms, +100 mNm torque |
| <b>ENVIRONMENT</b>           | Thermal: $-30^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ (operating)<br>Random Vibration: 20.16 gRMS           |   |
| <b>RADIATION</b>             | TID: 50 krad (board level)<br>Heavy Ion: Up to 50 MeV·cm <sup>2</sup> /mg on most active parts                |   |
| <b>FLIGHT HERITAGE</b>       | Total of 28 units on orbit across 2 generations, with cumulated 19 years since 2023                           |   |

