

REACTION WHEEL

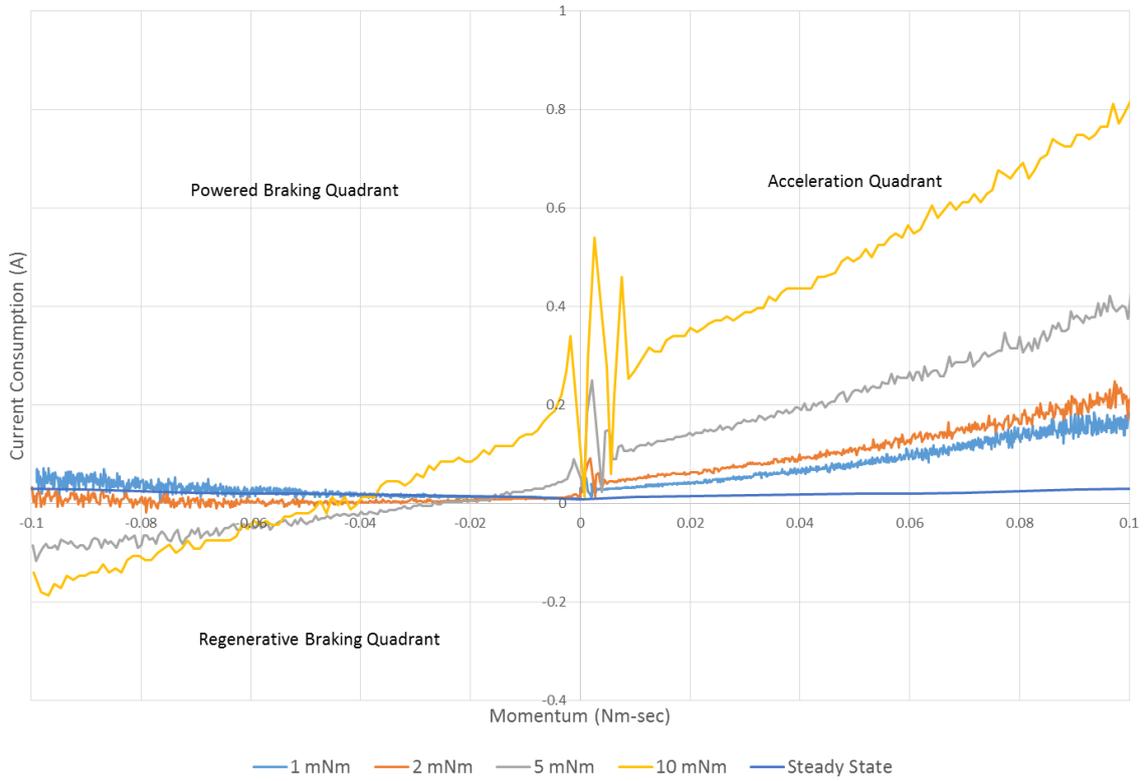
60 mNms RW-0.06 Data Sheet

Version 1, 14 July 2021



MOMENTUM	Nominal: 0.06 Nms Peak: 0.18 Nms (at 28 V supply)
TORQUE	±20 mNm at 0.12 Nms (at 28 V supply)
CONTROL MODE	Speed or torque with built-in control CPU
COMMAND / TELEMETRY	RS-485, CAN, ±36 V fault tolerant
MECHANICAL	Dimensions: 77 mm x 65 mm x 38 mm Mass: 226 g
SUPPLY VOLTAGE	Nominal: 7.5 V to 34 V , Maximum: 50 V Redundant pins, reverse polarity protected, shorted bus protected
SUPPLY POWER (28 V IN VACUUM)	23.4 W @ 0.12 Nms, +10 mNm 0.9W @ 0.12 Nms, steady state 0.5 W @ 0.06 Nms, steady state -4.6W @ 0.10 Nms, -10 mNm regenerative braking
ENVIRONMENT	Thermal: -40°C to +70°C (operating) Vibration: >23 gRMS Radiation: >20 krad dose
RELIABILITY	Diamond coated hybrid ball bearings Redundant motor windings Radiation lot-screened parts on all flight models
HERITAGE	41 Units total on-orbit on 12 satellites, first launched June 2014 Common design to RW-0.03, with >11 year on-orbit
PRICE	US\$35,000 each

Input Current at 28 V in Vacuum for Various Torques



Torque Box at 28 V in Vacuum

