

RWA-15 HIGH TORQUE REACTION WHEEL

MAKING AFFORDABLE SPACE TECHNOLOGY A REALITY



L-3 Space & Navigation (L-3 S&N) is a premier supplier of Momentum Exchange Devices, including Momentum Wheels, Reaction Wheels, and Control Moment Gyros. More than 600 RWA-15s have accumulated over 9,000,000 hours in space. The RWA-15 has an outstanding design heritage based on hundreds of space qualified units launched to date. At least 18 units are on-orbit today, with the longest unit being on-orbit for more than 7 years. The RWA-15 has performed on various remote sensing programs with demanding high performance requirements such as: IKONOS, LEO, QUICKBIRD, SWIFT, and QSCAT.

The RWA-15 is a High Torque Reaction Wheel Assembly with integrated electronics. It provides reaction torque for pointing and attitude stabilization of satellites demanding high reaction torque and low induced vibration. The high performance torque motor achieves exceptionally low torque ripple performance over the full speed range. Internal electronics provide motor commutation, torque control, voltage regulation, wheel telemetry, and self-protection circuitry.



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FEATURES, CAPABILITIES & TECHNICAL DATA

- PERFORMANCE

- Angular Momentum 20 Nms
(± 2200 rpm)
- Reaction Torque 0.68 Nm
- Low Torque Ripple < 4 mNm
- Low Induced Vibration < 6 mN

- POWER

- Input Bus Voltage $+28 \pm 6$ Volts dc

Wheel Speed	Reaction Torque	Input Power
0 rpm	0 Nm	13 W
0 rpm	0.5 Nm	57 W
2200 rpm	0 Nm	17 W
2200 rpm	0.5 Nm	230 W

- WEIGHT 14 kg

- SIZE 369 mm diameter x 153 mm height

- INTERFACE (Single I/O connector)

- Commands: ± 5 Volt analog torque
- Digital tachometer 24 pulse/rev
- Temperature Sensor
- Motor current telemetry
- Speed direction telemetry

- LIFE

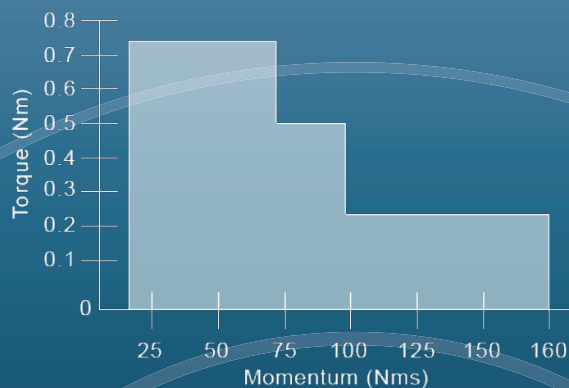
- 7 year orbit; 4 year storage
- Extensive history with R10 bearing

- RADIATION

- 30 Krad (standard)



L-3 S&N provides wheels in 5 to 160 Nms momentum and torque up to 0.75 Nm



FOR MORE INFORMATION PLEASE CONTACT:

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L-3. Leading. Headquartered in New York City, L-3 Communications employs over 64,000 people worldwide and is a prime contractor in aircraft modernization and maintenance, C³ISR (Command, Control, Communications, Intelligence, Surveillance and Reconnaissance) systems and government services. L-3 is also a leading provider of high technology products, subsystems and systems. The company reported 2007 sales of \$14 billion.