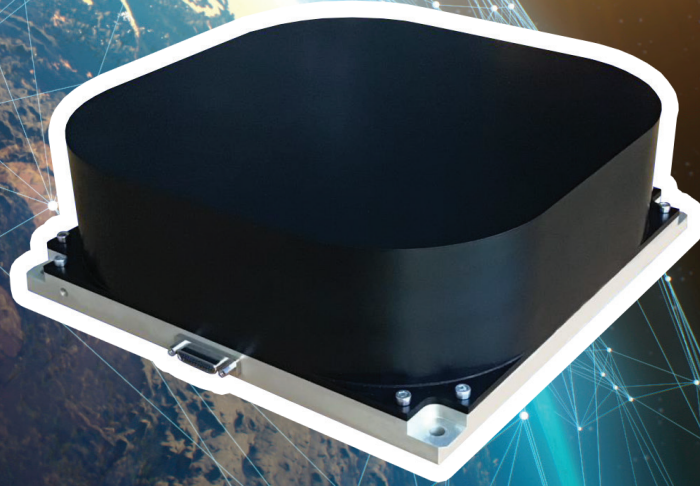# VECTRONIC Aerospace

VRW-D-6
REACTION WHEEL

VRW-D-6
REACTION WHEEL

- PI-loop running on a 32-bit microprocessor applying a low-noise, high-efficiency four-quadrant PWM.
- Standard asynchronous SCI on RS422/RS485 and CAN Interface
- Full-duplex configuration or half-duplex bus architecture
- Baud rate adjustable up to 1Mbaud
- Modular design that allows easy customization

SLIM AND HIGH TORQUE
FROM VECTRONIC AEROSPACE

The VRW reaction wheel series comprises more than 100 years of in-orbit flight experience.

The VRW-D-6 is a highly precise and customizable wheel, utilizing a model-supported PI-loop and offering speed and torque control. Simultaneously, thermal and over-voltage protection circuits ensure safety. It delivers a nominal angular momentum of 6.0 Nms. With a nominal in-orbit lifetime of 45,000+ hours, this is a dependable solution for your mission-critical needs.

TECHNICAL DATA

Dimensions: 200 mm x 200 mm x 67 mm

Mass: 3.0 kg

Moment of Inertia (rotor): $9.56*10^{-3}$ kgm²

Power consumption:
  @steady state, no speed <1.4 W
  @steady state, max. speed <14 W
  @max. speed, @50mNm <110 W

PERFORMANCE

Max. speed: ± 6000 rpm

Angular momentum: 6.0 Nms

Max. torque: ± 50/90 mNm

Speed control loop accuracy (2σ): 0.1 rpm

Unbalance static/dynamic: < 3 gmm / 100 gmm²