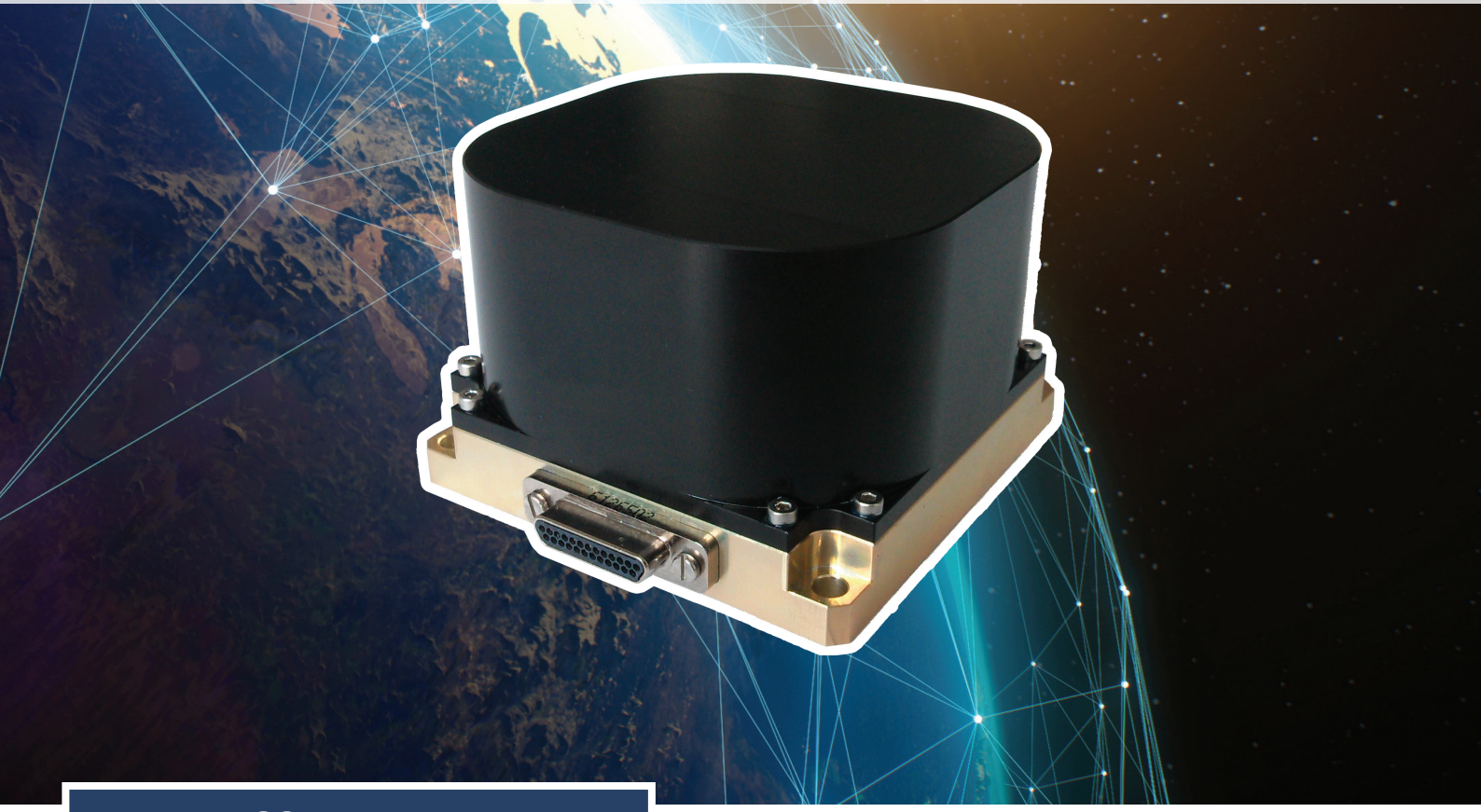
VECTRONIC Aerospace

VRW-B-02
REACTION WHEEL



VRW-B-02
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

SMALL YET HIGH MOMENTUM
FROM VECTRONIC AEROSPACE

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

The VRW-B-02 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 0.2 Nms. With a nominal in-orbit lifetime of 45,000+ hours, this is a dependable solution for your mission-critical needs.

TECHNICAL DATA

Dimensions: 70 mm x 70 mm x 48 mm

Mass: 1 kg

Moment of Inertia (rotor): $3.4*10^{-4}$ kgm^2

Power consumption:
@steady state, no speed <1.1 W
@steady state, max. speed <4.5 W
@max. speed, max. torque <45 W

PERFORMANCE

Max. speed: ± 6000 rpm

Angular momentum: 0.2 Nms

Max. torque: ± 20 mNm

Speed control loop accuracy (2σ): 0.1 rpm

Unbalance static/dynamic: < 1 gmm / 80 gmm²

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