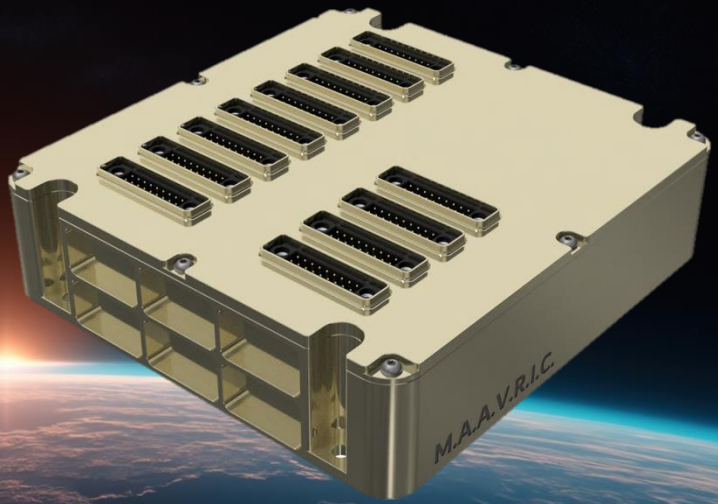


MAAVRIC

Modular Propulsion Controller



Standard ~1U Footprint Minimum Package Size

PRODUCT HIGHLIGHTS

MAAVRIC is Benchmark's robust, modular propulsion controller system, architected to work with all sizes of propulsion systems with minimal NRE. The controller is plug-and-play to a satellite operator's GNC software, or Benchmark's SmartAIM™ propulsion control layer.



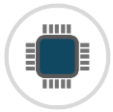
Single Comms Interface

Commanded via standardized CSP over RS-422 or CAN



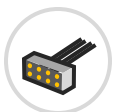
Modular

Scalable to any chemical, electric or hybrid propulsion system



Radiation Configurable

COTS, rad-tolerant, or rad-hardened to fit mission CONOPS and price-point



Connector Agnostic

Configurable for square connectors (standard) or circular connectors



Load Simulators Available

Simulate full prop system on the ground using our rack-mounted system

OPTIMIZED FOR PROPULSION

Independent Effector Control (valves / heaters)

- Tight timing on synchronizing valves and heaters (<1ms)
- Tight timing on command to actuation (<10ms in asynchronous mode, <1ms in synchronized timing mode)
- Spike & hold PWM on all effector channels
- Closed-loop heater control
- GSE bypass for direct control during fill ops

High Accuracy, High Precision Sensor Inputs

- <0.5% full scale error per channel
- Fully integrated analog front end, optimized for mV/V sensors, single ended or differential
- Integrated cold-junction compensation for thermocouples
- RTD support available upon request

Robust System by Design

- All active components rad-tolerant by design
- Other critical components available as rad-tolerant or COTS variants
- All components derated per EEE-INST-002
- Nominal 28V system (24-36V input)

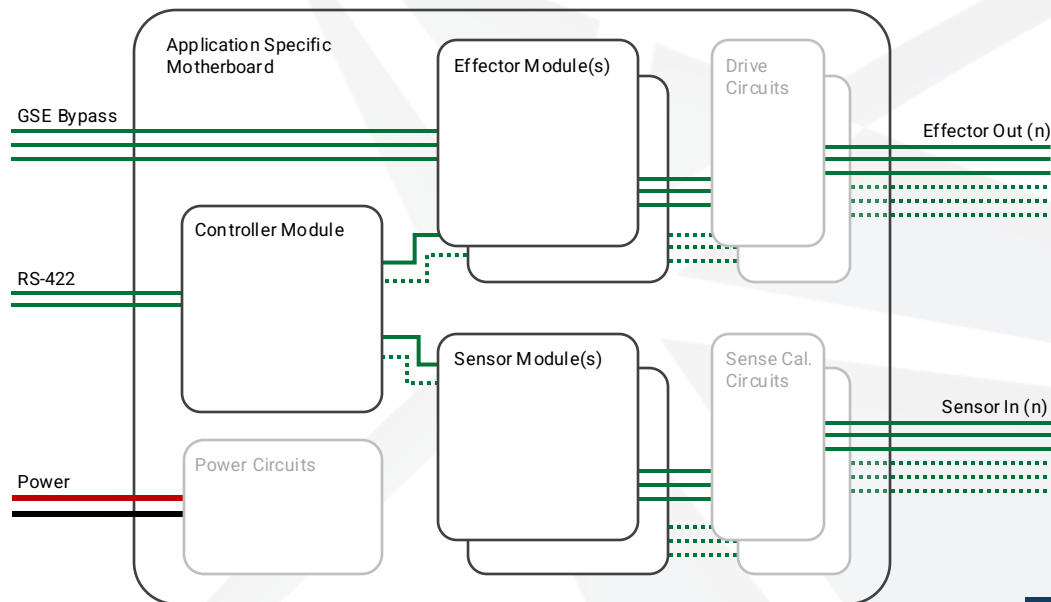
PROPULSION-SPECIFIC AVIONICS

MAAVRIC is designed specifically to optimize propulsion performance and scale to meet your mission.

Propulsion Specific Functionality	
System Configurations	Up to 64x Effectors (valves/heaters) and 64x Sensors Inputs
Physical Envelope (min system)	124mm x 117mm x 32mm
Safety	Designed for Power Domain Isolation & 91-710 Range Operation
Radiation Tolerance	Designed for 30krad / 40MeV·cm ² /mg
Design Specs / Qualification	NASA GEVS GSFC-STD-7000A, EEE-INST-002
Development Support	Development models and full system load-sims available

PRODUCT, CONFIGURATION, AND PRICING INQUIRIES: Sales@Benchmark-Space.com

MAAVRIC BLOCK DIAGRAM



BenchmarkSpaceSystems.com



DRIVING SPACE LOGISTICS

Benchmark is a full lifecycle partner committed to supporting your mission from initial concept planning through asset decommission in LEO, GEO, and beyond. By combining our mission experience, heritage propulsion products and advanced control systems with complementary products and services, Benchmark delivers unparalleled in-space mobility solutions for cubesat through ESPA and OTV spacecraft. Our offerings provide significant cost, schedule, and capability benefits, allowing operators to focus on mission success and ROI generation.

Contact us today to explore your mission!

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