

SPACECRAFT SYSTEMS

Micro Cathode Arc Propulsion Module

The Micro Cathode Arc Propulsion Module is a critical subsystem for orbit maintenance and attitude control of micro- and nano-satellites. It utilizes solid propellant and does not require a dedicated propellant feed system. The module supports long-term storage and features extremely low impulse bit (in the $\mu\text{N}\cdot\text{s}$ range), high efficiency, low mass, and simple structural design. It can be easily modularized and adapted for various missions, operating at low discharge voltages. The propulsion performance can be tuned through flexible control of the discharge frequency, making it suitable for precision satellite attitude control applications.

TECHNICAL SPECIFICATIONS

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Dimensions (mm)	100 × 100 × 40
Mass (g)	600 ± 50
Propellant	Titanium / Tungsten
Operating Temperature (°C)	-15 to +55
Storage Temperature (°C)	-30 to +55
Communication Interface	CAN / RS-422

Quick Overview

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Key Specifications

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Key Features

- No dedicated propellant feed system required.
- Ultra-low impulse bit and high specific impulse.
- Lightweight, compact, and low power consumption.
- Fast modular assembly and quick diagnostics.

Applications

- Used in **high-precision orbit maintenance and attitude control** for micro- and nano-satellites requiring **ultra-fine impulse and long operational lifespan**.

Documentation & Resources

- [Technical Specifications](#)
- [Applications](#)