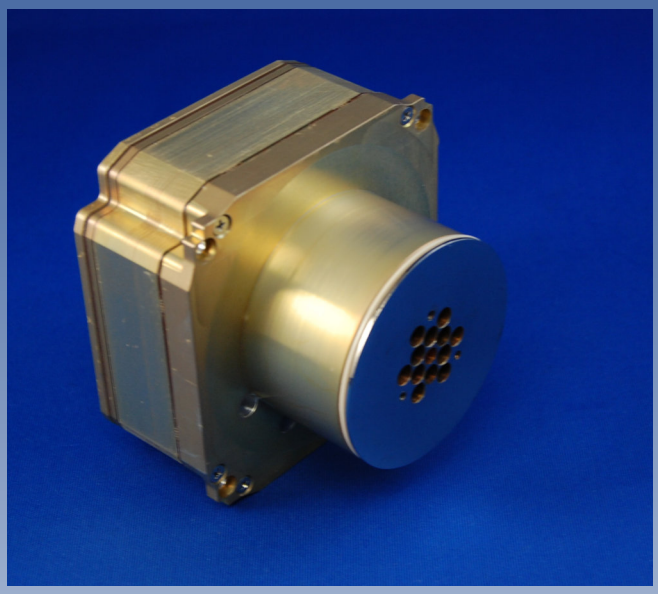
BmP-220 Micro-Pulsed Plasma Thruster

BUSEK
Space Propulsion and Systems

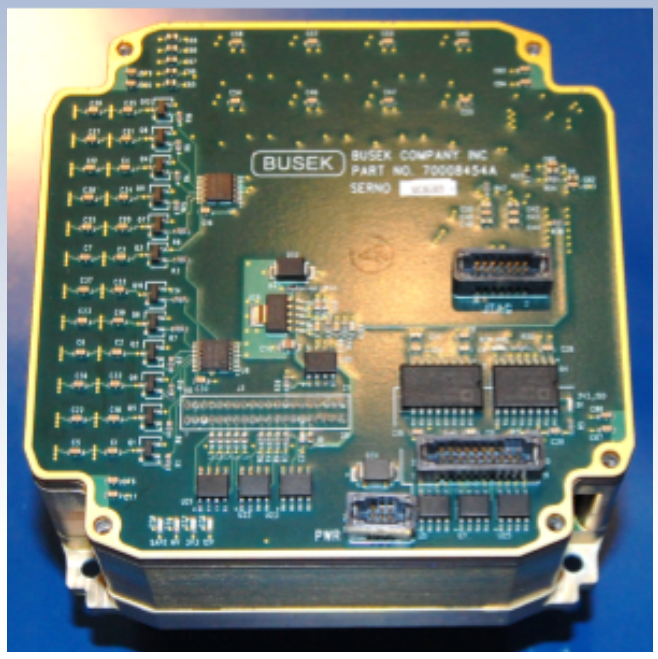
Small, safe, rugged pulsed plasma thruster with self-contained power processing unit for attitude control and Cubesat propulsion

Busek's BmP-220 micro-pulsed plasma thruster is a small multi-thruster delivering up to 175 Ns of impulse to CubeSats and micro-satellites. Novel, solid-state high voltage switching technology sources multiple emitters via a single selfcontained power processing unit. The BmP-220 features long storage life and wide operational temperature range with no moving parts, no pressure vessel, and non-toxic Teflon propellant, making it ideal for secondary payloads or international Space Station deployment. Busek's first generation pulsed plasma thruster, MPACS (Micro Propulsion Attitude Control System), successfully operated on FalconSat-3 (launched 2007). Each unit contains all the necessary electronics (PPU/DCIU), requiring only power and command input from the host spacecraft.

- Predecessor design >7 years on-orbit aboard FalconSat-3
- Solid, non-toxic Teflon propellant
- No pressurized containers
- No moving parts
- Low power: <3.0 W
- Precise, pulsed impulse bits (0.02 mN-s)



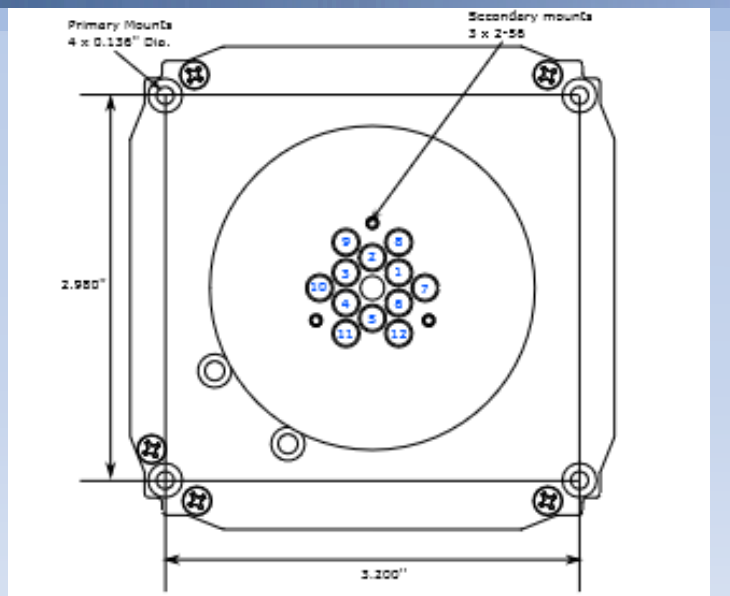
Bmp-220
Micro Pulsed Plasma Thruster



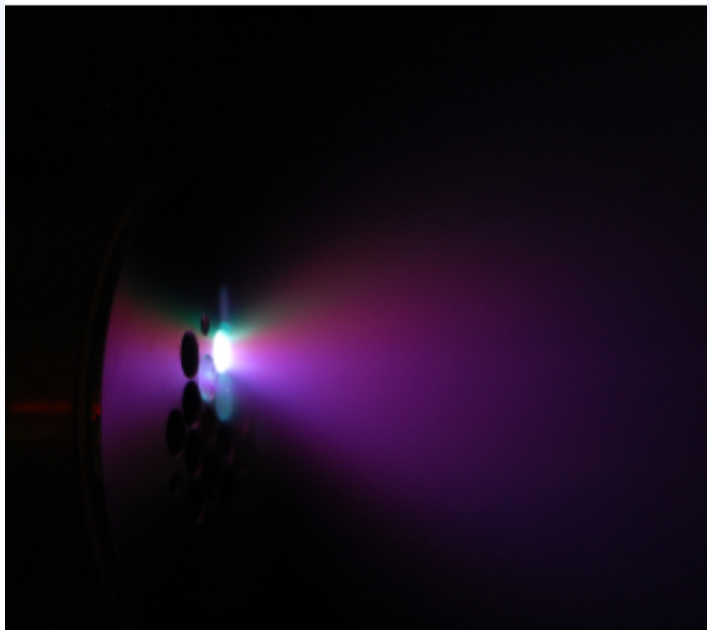
BmP-220
Integrated PPU/DCIU

BmP-220
Technical Specifications

System Power	<3.0 W at 1 Hz
Input Voltage	12.0 +/- 0.5 V Primary 3.3 V Secondary
Interface	RS-422
System Volume	375 cm³ + external “tuna can” volume occupied by ejector spring of 3U CubeSat launcher
System Mass	0.5 kg BOL
Propellant	PTFE (solid)
Heritage	FalconSat-3 MPACS (first generation) Operational Success
Impulse Bit	0.02 mN/s
Total Impulse	175 Ns (pending verification)



BMP-220 Laboratory Model Interfacing



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