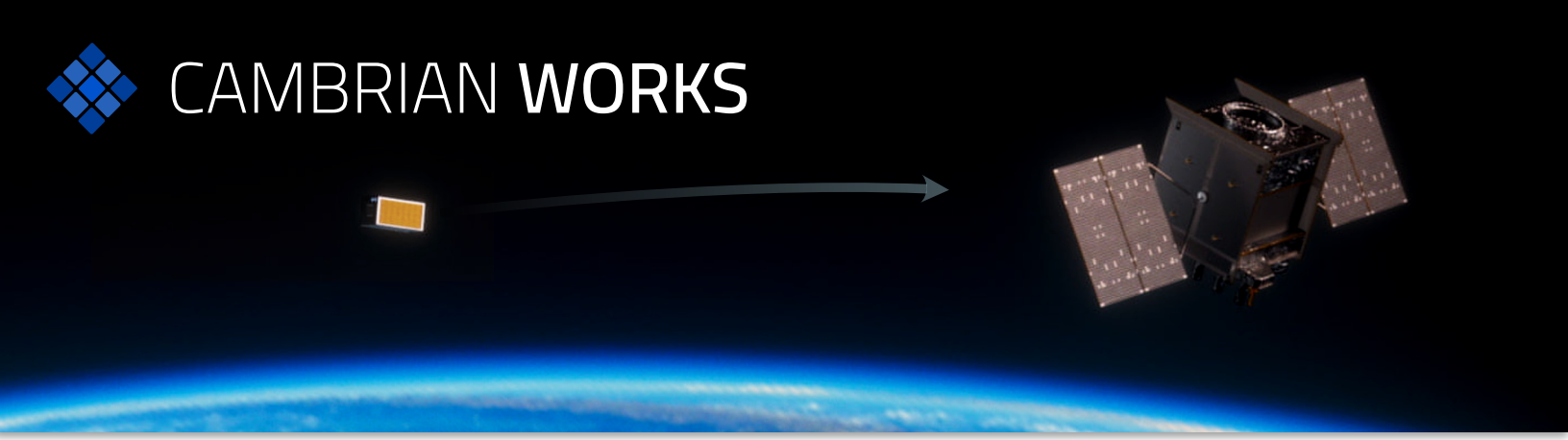
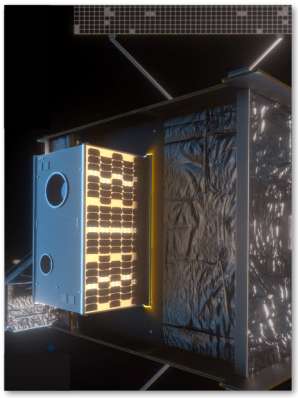
CAMBRIAN **WORKS**



Model 1010 eTAP Universal Attachment System

eTAP is a state-of-the-art technology to grip, hold and release objects in a space environment. Ideal in low gravity and in vacuum, eTAP is suitable for a broad range of RPOD applications. Its core ability is to attach to nearly any *unprepared* surface, providing instant docking and augmentation of existing orbiting platforms.



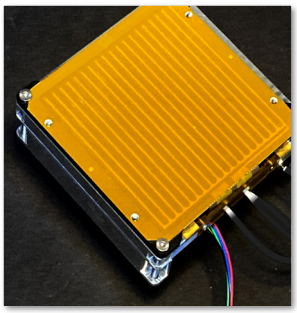
A 16U craft docks to a larger satellite's surface
(simulation)

Features

- Simple Hold/Release
- Ultra-Low Power
- Space-Ready Design
- Multi-use with Zero Degradation
- No Residue or Consumables
- 10x10cm Produces 3-6 N of Force
- Tileable for Larger Surface Areas

Mission Applications

- Payload Augmentations
- Satellite Servicing
- Debris Removal
- Robotic Operations
- In-Space Assembly
- Refueling Missions
- Detumbling Operations



Cambrian's 1U eTAP module stacked on its electronics package.

Attach to nearly any space material with the Cambrian Works electric Thin Attachment Pad system. A craft with an energized eTAP surface generates a holding force to attach to metal, glass or composite surfaces, and will maintain contact indefinitely. Simply switch it off to detach and release. Repeatable and re-usable.

Typical use cases include delivering a payload to provide new capabilities like communication links, beacons or maneuvering thrusters to an existing satellite... without needing pre-existing docking ports or mechanical intervention.

Capture Characteristics

Over full operating temperature range of -40°C +85°C

Attachment Force		
metals	0.063 N/cm^2	up to 4N for 80x80 mm area[1]
non-metals	0.031 N/cm^2	up to 2N for 80x80 mm area[1]
Capture Velocity	up to 2 cm/sec	specified conditions[1]
Capture Angle	up to ±5°	off-normal approach[2]
Response Time, Typical	<100ms activation	depends on total contact area

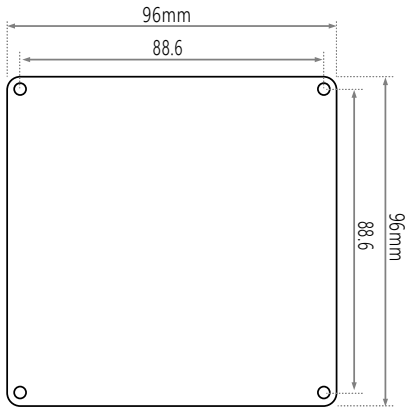
Electrical Specifications

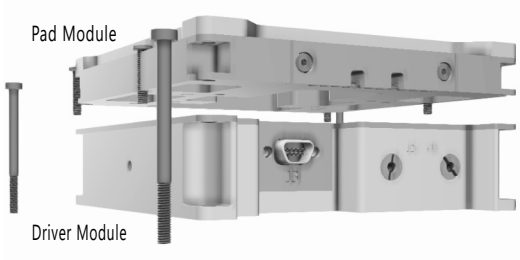
Operating Voltage	5.0±0.2 V
Current	25 mA
Power	125 mW
Control Interface	Direct I/O

Mechanical Specifications

Property	Total Package	Electronics Module	Pad Module
Dimensions	96 x 96 x 35 mm	96 x 96 x 20 mm	96 x 96 x 15 mm
Volume	323 cm^3	184 cm^3	138 cm^3
Mass	455 g (modules & cable)	210 g	pad 240 g
Mounting	M3 hole, 4x	M3 hole, 4x	M3 hole, 4x
Platform Compatibility	1U Cubesat to ESPA-class		

[1]*Depends on material and surface finish*
[2]*Angle depends on material, surface and speed*





Configurations

- individual pads
- tiled arrays
- 1U, 3U, 4U sizes are typical
- custom shapes are available

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