



# CUBEDRIVE

## A FAMILY OF TURN-KEY PROPULSION MODULES

### Collision avoidance kits for ESPA-class satellites

Dawn's high-thrust turn-key CubeDrives can deliver multiple avoidance maneuvers for large satellites. Standard interfaces and low lead times.

### Green propellants

CubeDrive's utilize nitrous oxide (N<sub>2</sub>O) and propylene (C<sub>3</sub>H<sub>6</sub>). Propellants are widely available, with low costs and lead times from domestic suppliers.

### Rideshare friendly

Dawn's propulsion systems have flown on all but one SpaceX Transporter mission to date, Starlink rideshare, and Arianespace's Vega rideshare. [Learn more](#) about our safe failure modes and why launchers like what we're building.

### Suitable for any CubeSat

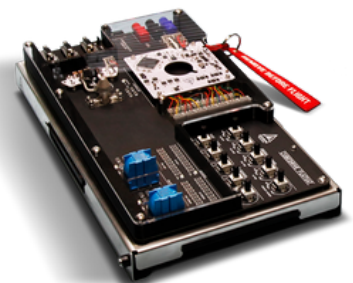
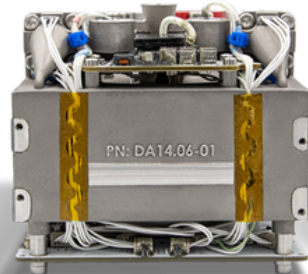
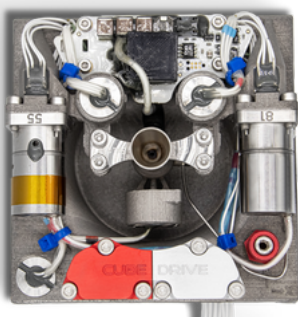
Turn-key systems for 3U to 36U+ CubeSats. All modules include thrusters, tanks, valves, control electronics, and health monitoring.

### 0.8U Module

### 2U Module

### 4U Module

<b>Status</b>	In space	In development	In development
<b>Thrusters</b>	1x B1 thruster	1x B1 thruster	1x B1 thrusters
<b>Total impulse</b>	405 N.s (91 lbf.s)	1450 N.s (325 lbf.s)	3300 N.s (787 lbf.s)
<b>Mass (dry / wet)</b>	981 g / 1200 g (2.14 lbm / 2.58 lbm)	2050 g / 2700 g (4.52 lbm / 5.95 lbm)	3800 g / 5500 g (5.5 lbm / 8.8 lbm)
<b>Dimensions</b>	80 x 96 x 96 mm (3.15 x 3.78 x 3.78 in)	200 x 96 x 96 mm (7.87 x 3.78 x 3.78 in)	200 x 200 x 100 mm (7.87 x 7.87 x 3.94 in)
<b>Turn-key systems</b>	All systems include thrusters, tanks, tubing, health monitoring, control electronics, and structures		
<b>Propellants</b>	Nitrous oxide (N <sub>2</sub> O) and propylene (C <sub>3</sub> H <sub>6</sub> )		
<b>Tanks</b>	Type 1: All metallic. 3D printed using Inconel		
<b>Data</b>	CAN bus (other data protocols available on request)		
<b>Supply voltage</b>	Digital: 5 to 5.2 VDC Actuators: 12 VDC unregulated		
<b>Operational temperature</b>	-5°C to 30°C (23°F to 86°F)		
<b>Survival temperature</b>	-30°C to 40°C (-22°F to 104°F)		
<b>Propellant loading</b>	At the launch site or integration facilities by Dawn		



## B1 THRUSTER

Available in a variety of form factors. Please refer to [B1 thruster specifications](#) for physical, environmental, and performance specifications.



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