

ARM-A | ATTITUDE CONTROL MODULE

THE ATTITUDE CONTROL VARIANT OF THE ARM PRODUCT LINE

ARM PRODUCT LINE

The ARM products provide an array of 1-12 individual thrusters with a shared tank for a variety of use cases. The products are intended for any nano- and microsatellite sizes, with specific CubeSat form factor variants being provided off-the-shelf.

The ARM product line has the following CubeSat-scale variants available

- ARM-A Attitude control
- ARM-O Orbit control
- ARM-AO Attitude and Orbit control
- ARM-DA Attitude Determination and control
- ARM-DAO Attitude Determination, control and Orbit control

Additionally, the customized modules (“ARM-C”) are available for custom use cases. Case studies have included satellites up to 200 kg in mass, as well as adapting the thrusters for existing propellant systems.

ARM-A

The ARM-A is a 6-thruster attitude control module. It is available with multiple tank sizes, starting from as small a form factor as 0.35 U. Mounted to either end of the satellite, it provides full 3-axis attitude control for any sized CubeSats. The smallest unit size is suitable even for 1 U CubeSats, with other variants available for any CubeSat sizes. The system is able to support missions of 3+ years.



The AuroraSat-1 ARM-A module

CUSTOMER CHOICE

The modular structure of the system allows for the customer to provide two choices:

- The thruster thrust / power level
- The tank size / form factor

SAFETY

The water-based propellant ensures safety both during the launch as well as during transport to the launch site; no dangerous chemicals are involved. The tank pressure is below 100 kPa, fulfilling all common safety requirements.

ARM-A SPECIFICATION

The specs are given for the smallest, a medium and a big form factor. Other form factors between these are also available.

Form factor	0.35 U	1 U	4 U
Idle Power	50 mW (0 W when off)		
Active Power	2 – 20 W *		
Thrust	0.6 – 4 mN *		
Isp	100 s (estimate)		
Impulse	70 Ns	300 - 600 Ns	> 1000 Ns
Wet mass	300 g	< 1.3 kg	< 6 kg
Dry mass	~ 230 g	< 1 kg	< 5 kg
Form	100 x 100 x 35 mm	100 x 100 x 100 mm	100 x 200 x 200 mm
Availability	Lead time of 3-6 months		Starting 2021-Q3

* Adjustable; per active thruster