**Scalability**

We offer a wide range of sensors that enable control modes for all types of missions. Sensors can be selected based on pointing requirements and orbit, and actuators can be scaled based on satellite size and agility requirements. We also offer a wide range of consultation services and are able to do custom controllers, and integrate external sensors/actuators into our system.
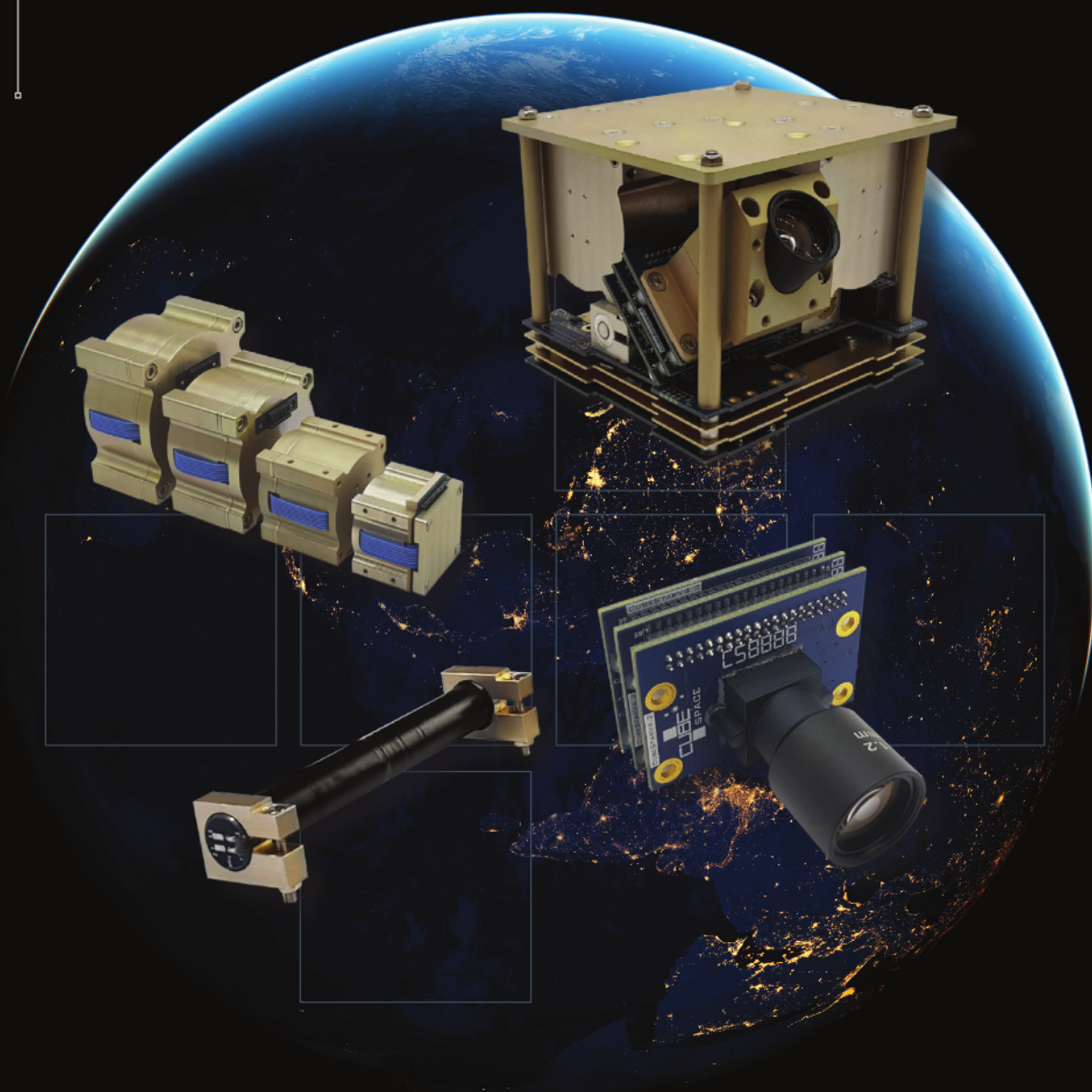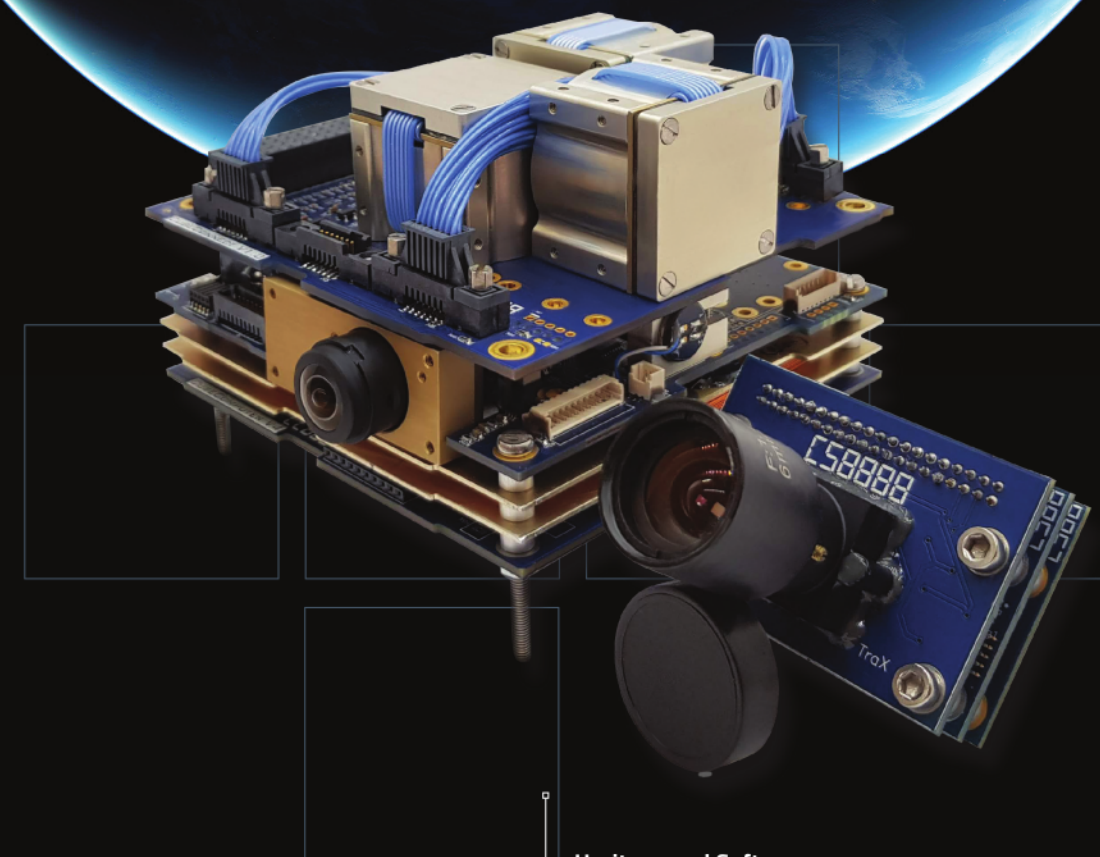
CUBE SPACE

Customized **ADCS** Solutions

CLOSED LOOP ADCS

CubeADCS is an integrated collection of CubeSpace ADCS sensors and actuators, as well as our robust, radiation-tolerant flight computer. Together, these systems provide a complete turn-key CubeSat ADCS solution for users that aim to rapidly develop satellites, using flight-proven components.

Heritage and Software

Having originated from highly successful micro-satellite missions, the estimation and control algorithms used in the CubeADCS systems have extensive heritage. These algorithms were wrapped in a robust software shell, which provides an intuitive TC/TLM interface, on-board logging features, built-in automatic power management, and even a scheduling mechanism. To date, we have delivered ADCS systems for over 50 unique satellite missions, and in excess of over 400 individual ADCS components. As such, our hardware is designed to be robust, and our systems have been refined through in-flight experience.

CLOSED LOOP ADCS

CUBE SPACE

FEATURES

	Y-Momentum Small	Y-Momentum Medium	Y-Momentum Large
Satellite Size	2-3U	3-6U	6-12U
Approximate Mass	< 300g	< 490g	< 600g
Dimensions			
Stack	90x96x48mm	90x96x32mm	90x96x32mm
Wheel	-	46x46x31.5mm	57x57x31.5mm
Star Tracker	-	-	-
Estimation Modes*	MEMS Rate Filter, Magnetic Rate Filter, TRIAD, Full-state EKF, MEMS Gyro EKF		
Control Modes*	Detumble (B-Dot), High rate detumbling, Very high rate detumbling Y-Thomson, Sun-spin		
Typical Applications	Communications / IoT / AIS Detumbling and coarse Earth pointing		
Included Components	ADCS Computer, 3x MEMS Gyro, 10x Course Sun sensors, 3-Axis Deployable Magnetometer. Optional: Fine Sun & Earth sensors, Redundant Magnetometer		
	1x CubeWheel Small 2x Small Ferite Rods 1x Air Core coil	1x CubeWheel Medium 2x Small Ferite Rods* 1x Air Core coil* *Increased windings/strenght	1x CubeWheel Large 3x Small Ferite Rods* *Increased windings/strenght

ORDER INFO

	Price	Lead Time
Y-Momentum	22 000 USD	4 Months
Medium Wheel Upgrade	+ 2 000 USD	
Large Wheel Upgrade	+ 3 000 USD	
Medium Torquer Upgrade	+ 750 USD	
Large Torquer Upgrade	+ 2 100 USD	
Redundant Magnetometer	+ 1 900 USD	
CubeSense	+ 4 000 USD	

Notes:

FEATURES

	3-Axis Small	3-Axis Medium	3-Axis Large
Satellite Size	2-6U	3-6U	6-12U
Approximate Mass	< 530g	< 960g	< 1150g
Dimensions			
Stack	96x96x57mm	90x96x82mm	90x96x32mm
Wheel	-	-	(3x) 57x57x31.5mm
Star Tracker	-	-	50x35x55mm
Estimation Modes*	MEMS Rate Filter, Magnetic Rate Filter, TRIAD, Full-state EKF, MEMS Gyro EKF		
Control Modes*	Detumble (B-Dot), High rate detumbling, Very high rate detumbling Y-Thomson, XYZ-Wheel Control, Sun pointing, Ground target tracking, and others		
Typical Applications	Communications / IoT / AIS / Imaging / SAR / Science Detumbling and fine 3-Axis pointing and tracking		
Included Components	ADCS Computer, 3x MEMS Gyro, 10x Course Sun sensors, 3-Axis Deployable Magnetometer, Fine Sun & Earth sensors. Optional: Redundant Magnetometer, Star Tracker		
	3x CubeWheel Small 2x Small Ferite Rods 1x Air Core coil	3x CubeWheel Medium 2x Small Ferite Rods* 1x Air Core coil* *Increased windings/strength	3x CubeWheel Large 3x Small Ferite Rods* *Increased windings/strength

ORDER INFO

	Price	Lead Time
3-Axis	34 000 USD	4 Months
Medium Wheel Upgrade	+ 6 000 USD	
Large Wheel Upgrade	+ 9 000 USD	
Medium Torquer Upgrade	+ 750 USD	Lead times for Large and Custom ADCS systems are quoted based on complexity of systems.
Large Torquer Upgrade	+ 2 100 USD	
Star Tracker	+ 13 000 USD	
Redundant Magnetometer	+ 1 900 USD	
Custom	Contact for consultation and pricing.	

* CubeADCS can also provide users an interface to code their own estimators and controllers. Contact us for more details.