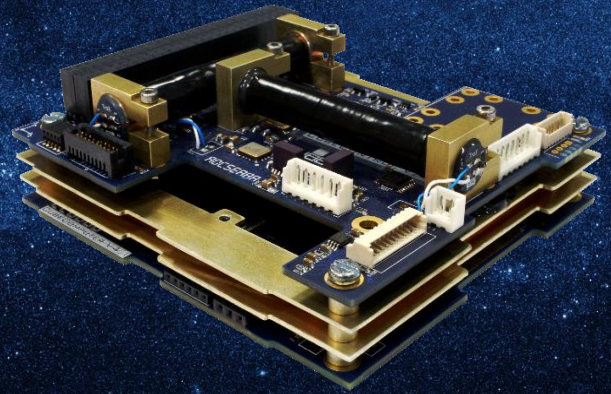


# CubeADCS Magnetic

Compact magnetic ADCS for detumbling and spin control

## Description

The simplest form of ADCS for a satellite is to detumble into a controlled spin and to maintain this spin using pure magnetic control. The CubeADCS magnetic integrated system uses a magnetometer, 3-axis rate sensors, and coarse sun-sensors to estimate the satellite's spin rate and attitude, and uses magnetorquers to control it to a desired state.



## Ordering information

Lead time	4 Months
Price	16 000 USD
Flight heritage	>10 Total years in-flight

## Contains

CubeComputer	ADCS computer (can be used as a flight computer)
CubeControl	2x Ferrite core torquers 1x Air core coil 3x MEMS gyro rate sensors 10x Coarse Sun sensors 3-Axis deployable magnetometer

## ADCS Performance

Typical use	1U Detumbled and controlled spin
Control modes	Detumble (B-Dot), High rate detumble (B-Dot), Very high rate detumble (B-Dot), Y-Thomson, Sun-spin
Estimation modes	MEMS rate filter, Magnetic rate Kalman Filter, TRIAD, Full State EKF, MEMS Gyro EKF
Control loop rate	1 Hz
Rate measurement accuracy	$< 0.02^\circ/s$ ( $3\sigma$ )
Attitude measurement accuracy	$< 3^\circ$ ( $3\sigma$ )
Rate control accuracy	$< 0.3^\circ/s$ ( $3\sigma$ )

## Electrical Specifications

Power supply	3V3, 5V
Power consumption	450 mW Typical

## Physical Specifications

Mass	203 g
Volume	90 x 96 x 31mm (0.31U)

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