TakeMe2Space

AeroMagControl
Technical Specifications

Description:

AeroMagControl is an advanced Attitude Determination and Control System (ADCS) designed for CubeSats ranging from 3 to 16U in size. It provides efficient detumbling and stabilization. The driver board, equipped with an onboard IMU and can be interfaced with sun sensors, star tracker, magnetorquers, reaction wheels, and GPS subsystems ensuring precise attitude determination and control.
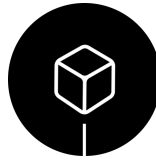
Specifications:

	Parameter	Value
Controller	Controller Type	Dual 32-bit Arm® Cortex® (M7 CPU with MPU+M4)
	Processor Clock Speed	M7 - Up to 480MHz M4 - Up to 240MHz
	Persistent Storage	1x 64Mbit
Power	Input Voltage	5V to 9V
	Input Power protection	The power input has an e-Fuse with Over Voltage Protection (OVP), Under Voltage Lockout (UVLO), Over Current Protection and Reverse Polarity Protection. UVLO : 4.75V OVP : 9V Current limit : 3.6A
	Output Voltages	1x 5V 1x 3.3V
	Isolation Specification	Isolation Resistance : 50MΩ Isolation Voltage : 500VDC
Interfaces	Interfaces Supported	2 x Isolated Full Duplex RS-485 2 x Isolated CAN 2 x GP Inputs 2 x Isolated UART 8 x Unisolated I2C
	Onboard Peripherals	1 x AMG IMU 1 x Temperature Sensor 1 x Magnetometer
Mechanical	Dimensions	95 mm x 95 mm x 30.6mm (with enclosure)
	Form factor	PC104 compliant with stackable connector
	Connectors	7 x 6 pin Harwin Gecko screw lock 9 x 4 pin 1mm pitch Molex Picolock 1 x 6 pin 2mm pitch Molex Picklock 1 x 104 pin Samtec header
Software	Software Development Kit (SDK)	Control SDK Library included
	Debug Interface	SWDIO