

NEWSPACE MARKET · COMPANY PROFILE



Tensor Tech

Taiwan · founded 2019 · tensortech.co

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PRODUCTS

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SERVICES

newspacemarket.com/companies/tensor-tech-thermal/

as of 28 August 2026

Tensor Tech

Tensor Tech Co., Ltd. is a Taiwanese spacecraft attitude determination and control (ADCS) company headquartered in New Taipei City, Taiwan, with a US office in San Jose, California, developing flight-proven space-qualified ADCS products ranging from complete integrated systems to individual components for nanosatellites and small satellites. The company's product portfolio includes Control Moment Gyroscopes (CMG), sun sensors, magnetorquers, integrated ADCS systems for NanoSat and SmallSat platforms, ground support equipment, and mass properties analysis tools, all backed by an ISO 9001-certified quality management system and rigorous testing. Tensor Tech provides scalable ADCS solutions — ranging from miniaturised attitude sensors for 1U CubeSats to complete multi-mode ADCS for larger platforms — targeting academic, institutional, and commercial small satellite developers seeking reliable, flight-proven attitude control hardware.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

AOCS Design and Manufacturing

Tensor Tech provides professional AOCS solutions, including system design, manufacturing, and integration services, customized for each space mission.

AOCS Processor in the Loop (PIL)

Tensor Tech offers a specialized service using the Processor-in-the-loop (PIL) toolkit to simulate AOCS computer firmware behavior for improved precision.

AOCS Software in the Loop (SIL)

Tensor Tech's AOCS Software-in-the-loop (SIL) simulation tool, TYF, allows clients to accurately predict mission motion control performance.

Jitter Analysis and Measurement

Tensor Tech specializes in delivering accurate Relative Pointing Error (RPE) estimates for mission analysis, crucial for optical payload missions.

Mass Properties Measurement

Tensor Tech offers precise Mass Properties measurement services for customer spacecraft and Devices under Test (DUT) using their ADCS TestBed.

Product catalogue



TENSOR TECH

ADCS + Star Tracker

Tensor Tech ADCS products support integration with third-party star trackers for enhanced pointing accuracy, fusing data from star trackers with onboard attitude sensors to improve

price on request



TENSOR TECH

ADCS for SmallSats

The TensorADCS Series for smallsats extends attitude control capability to satellites from 30 kg to 1000 kg, incorporating multiple variable-speed, single-gimbal Control Moment Gyr

Voltage	28 V
Interface	RS-422

price on request



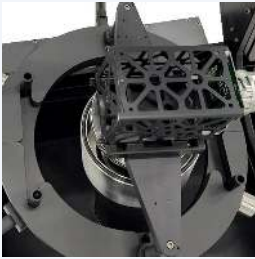
TENSOR TECH

ADCS for up to 30 kg

The TensorADCS series provides attitude determination and control systems for nanosatellites up to 30 kg, incorporating variable-speed, single-gimbal Control Moment Gyroscopes (CMG)

Pointing knowledge	3 ~ 100 arcsec with star tracker
Pointing knowledge (2)	0.3 deg standard config.
Max. momentum	13 mNms on 2-axis
Slew rate	5 deg/s
Control accuracy	0.4 deg
Torque (Gyroscopic)	15 ~ 100 mNm
Dimensions	94 x 92 x 73.5 mm3

price on request



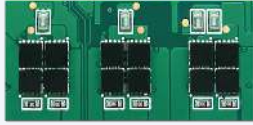
TENSOR TECH

ADCS Testbed

Ground test facility for ADCS calibration, mass-properties measurement, and algorithm validation: air-bearing platform, triaxial Helmholtz cage, and solar simulator.

Air-bearing platform — position of center of mass, manually adjustable (X, Y, Z axes)	25 mm (± 12.5 mm)
Air-bearing platform — turbine torque	5 µNm (typical)
Air-bearing platform — travel angle	< ± 12 deg for regular platform (Max. load 30 kg); < ± 22 deg for small platform (Max. loa
Air-bearing platform — center of mass estimation error	1.5 mm
Air-bearing platform — moment of inertia (moi) estimation error	10%
Air-bearing platform — product of inertia (poi) estimation error	10% of MOI
Air-bearing platform — attitude estimation error	< 1 deg (3-sigma)

price on request



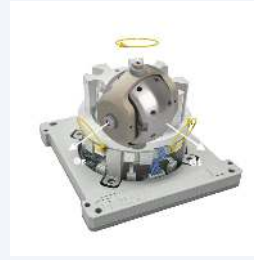
TENSOR TECH

Attitude and Heading Reference System and Inertial Reference Unit

The Attitude and Heading Reference System (AHRS) and Inertial Reference Unit (IRU) uses array-IMU technology to achieve tactical-grade performance with automotive-grade IMUs, prima

Yaw, roll, and pitch accuracy	< 0.5 deg
Angular velocity limit of the system	> ± 125 deg/second, configurable
3-axis magnetometer	Optional
Update rate	50 Hz
Operating temperature range	-20 ~ 80 deg C
Bandwidth	25 Hz
Communication interface	UART and WiFi

price on request



TENSOR TECH

CMG for SmallSats

The TensorCMG Series features variable-speed, single-gimbal Control Moment Gyroscopes (CMGs) driven by spherical motor technology, suitable for satellites from 30 kg to 1000 kg.

Momentum	1 Nms
Torque	> 3 Nm
Gimbal axis angular range	Unlimited
Gimbal maneuver	> 30 million
Dimensions	100 x 100 x 120 mm3
Mass	< 2.5 kg
Rotor imbalance	ISO 1940, G0.4

price on request



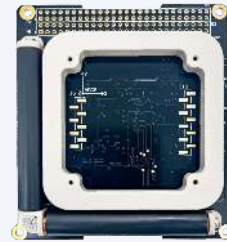
TENSOR TECH

DynaSense AHRS

Ground-equipment attitude and heading reference system built on array-IMU technology using automotive-grade IMUs.

Yaw, roll, and pitch accuracy	< 0.5 deg
Angular velocity limit of the system	> ± 125 deg/second, configurable
3-axis magnetometer	Optional
Update rate	50 Hz
Operating temperature range	-20 ~ 80 deg C
Bias instability (deg per hour)	< 4
Bandwidth	25 Hz

price on request



TENSOR TECH

Magnetorquers

Tensor Tech's magnetorquer product line, offered as an integrated MTQ Board or as standalone TensorMTQ rods, providing detumbling and basic pointing for small satellites.

Magnetic dipole moment	> 0.2 Am ² for X/Y axes; > 0.1 Am ² for Z axis
Inrush current	< 0.5 A @ 12 V
Power consumption	< 1 W
Mass	< 205 g
Dimensions	94 x 90 x 19 mm3
Supply voltage	5 ~ 36 V
Control interface	UART or RS-485

price on request



TENSOR TECH

Magnetorquers (MTQ Board & TensorMTQ series)

Tensor Tech offers magnetorquers in two forms: integrated MTQ Boards with embedded ADCS algorithms for detumbling and basic pointing, and standalone TensorMTQ series rods for small

Magnetic dipole moment	> 0.2 Am ² for X/Y axes; > 0.1 Am ² for Z axis
Inrush current	< 0.5 A @ 12 V
Power consumption	< 1 W
Mass	< 205 g
Dimensions	94 x 90 x 19 mm ³
Supply voltage	5 ~ 36 V
Control interface	UART or RS-485

price on request



TENSOR TECH

Mass Properties Measurement Services

Mass Properties Measurement Services utilize an air-bearing platform for precise determination of satellite mass properties.

Center of Mass Estimation Error	1.5 mm
Moment of Inertia (MOI) Estimation Error	10 %
Product of Inertia (POI) Estimation Error	10 % of MOI

price on request



TENSOR TECH

Tensor Tech ADCS - 10m - Integrated Attitude Determination and Control System

ADCS-10m is an integrated ADCS with a variable-speed, single-gimbal Control Moment Gyroscope (CMG) which is suitable for 3U CubeSats. It delivers the same performances compared to...

Manufacturer	Tensor Tech
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price on request



TENSOR TECH

Tensor Tech ADCS - 20m - Integrated Attitude Determination and Control System

ADCS-20m is an integrated ADCS with two variable-speed, single-gimbal Control Moment Gyroscopes (CMG) which is suitable for 6U CubeSats. It delivers the same performances compared to...

Manufacturer	Tensor Tech
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price on request



TENSOR TECH

Tensor Tech ADCS – 40m – Integrated Attitude Determination and Control System

ADCS-40m is an integrated ADCS with four variable-speed, single-gimbal Control Moment Gyroscopes (CMG) which is suitable for 12U and 16U CubeSats. It delivers the same...

Manufacturer

Tensor Tech

price on request



TENSOR TECH

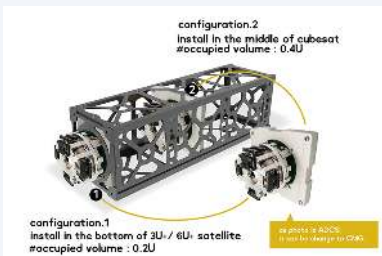
Tensor Tech ADCS – MTQ Integrated Attitude Determination and Control System with Magnetorquers

ADCS-MTQ uses a triaxial magnetometer and a triaxial magnetorquer for attitude control. Its control modes include magnetic dipole moment control and de-tumbling. To enable the...

Manufacturer

Tensor Tech

price on request



TENSOR TECH

Tensor Tech CMG-10m Control Moment Gyroscope

CMG-10m is a variable-speed, single-gimbal Control Moment Gyroscope (CMG) which is suitable for 3U CubeSats. Unlike traditional CMGs that are driven by two or three motors, this...

Manufacturer

Tensor Tech

price on request



TENSOR TECH

Tensor Tech CMG-20m Control Moment Gyroscope

CMG-20m has two variable-speed, single-gimbal Control Moment Gyroscope (CMG) which is suitable for 6U CubeSats. Unlike traditional CMGs, each driven by two or three motors, this...

Manufacturer

Tensor Tech

price on request



TENSOR TECH

Tensor Tech CMG-40m Control Moment Gyroscope

CMG-40m has four variable-speed, single-gimbal Control Moment Gyroscope (CMG) which is suitable for 12U and 16U CubeSats. Unlike traditional CMGs, each driven by two or three...

Manufacturer **Tensor Tech**

price on request



TENSOR TECH

Tensor Tech FSS-15 Fine Sun Sensor

The FSS-15 is a minimized fine sun sensor with high cost-performance, featuring an embedded microcontroller for tabulated error correction and digital interfaces (I2C and UART) for

Flight heritage	since 2022
Lead time	2 months
Field of view (FOV)	± 60 deg; 45 deg for optimal performance
Accuracy	± 0.1 deg with 45 deg FOV (1-sigma) ± 0.5 deg with 60 deg FOV (1-sigma)
Sampling rate	2, 4, 8, and 16 Hz adjustable by the user
Power consumption @ sampling	< 2 mA
Power require @ idle	< 0.5 mA

price on request



TENSOR TECH

TensorADCS Series (up to 30 kg)

TensorADCS is a configurable attitude determination and control system for nanosatellites up to 30 kg, using variable-speed single-gimbal Control Moment Gyroscopes (CMGs) for high-

Pointing knowledge	3 ~ 100 arcsec with star tracker; 0.3 deg standard config.
Max. momentum	13 mNms on 2-axis
Slew rate	5 deg/s
Control accuracy	0.4 deg
Torque (Gyroscopic)	15 ~ 100 mNm
Dimensions	94 x 92 x 73.5 mm3 (1 Tuna-can + 0.25 U)
Nominal voltage	6 ~ 14 V

price on request



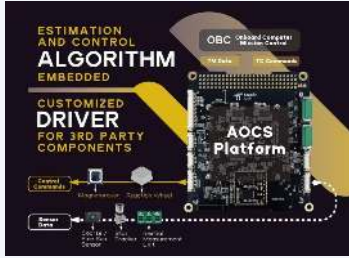
TENSOR TECH

TensorADCS-10m

Integrated CMG-based ADCS for nanosatellites up to 30 kg, mounting in a single tuna-can occupying 0.25U.

Pointing knowledge	3 ~ 100 arcsec with star tracker; 0.3 deg standard config.
Max. momentum	13 mNms on 2-axis
Slew rate	5 deg/s
Control accuracy	0.4 deg
Torque (Acceleration)	1 mNm
Torque (Gyroscopic)	15 ~ 100 mNm
Dimensions	94 x 92 x 73.5 mm3; 1 Tuna-can + 0.25U

price on request



TENSOR TECH

TensorAOCS-MCB

Main control board / AOCS platform for real-time attitude estimation and control, interfacing with the spacecraft OBC.

Interfaces	RS-422, RS-485, UART, I2C, SPI, CAN-FD, Ethernet, SpaceWire, and MIL-STD-1553
Radiation tolerance	> 24 krad(Si) on electronics

price on request



TENSOR TECH

TensorCMG-10m

The TensorCMG-10m is a variable-speed, single-gimbal Control Moment Gyroscope (CMG) designed for CubeSats up to 16U and nanosatellites up to 30kg, utilizing spherical motor technology.

Dimensions	54 x 49 x 56 mm ³
Gimbal axis angular range	Unlimited
Power	1.92 W
Mass	280 g
Gimbal maneuver	> 30 million
Interface	RS-485
Momentum	13 mNms on x,y-axis

price on request



TENSOR TECH

TensorCMG-10m-S

Variable-speed, single-gimbal Control Moment Gyroscope for CubeSats up to 16U and nanosatellites up to 30 kg — skew-mount version.

Dimensions	54 x 49 x 56 mm ³
Gimbal axis angular range	Unlimited
Power	1.92 W
Mass	280 g
Gimbal maneuver	> 30 million
Interface	RS-485
Momentum	13 mNms on x,y-axis

price on request



TENSOR TECH

TensorEGSE

Compact all-in-one Electrical Ground Support Equipment for testing and configuring Tensor Tech ADCS boards, CMGs, and FSS units.

Dimensions	164 x 96 x 27 (H) mm ³
Available controlled power supply	3.3 V, 5 V line
Interface	UART, RS-485, RS-422/CAN
Supported off-the-shelf subsystem	Tensor ADCS-10m, ADCS-20m, ADCS-40m, CMG-10m, CMG-1, CMG-4, FSS-15M, FSS-30M
Platform	Linux
Connection	LAN / WiFi

price on request



TENSOR TECH

TensorFSS-15M Fine Sun Sensor

The TensorFSS-15M is a 2-axis digital fine sun sensor for satellite attitude determination, offering 0.2-degree accuracy and low power consumption, with an optional embedded tri-ax

Field of view (FOV)	120 deg
Current (ACTIVE)	17.1 mA operated in continuous mode, 8 Hz
Interface	RS-485
Accuracy, 1-sigma	< 0.2 deg, < 0.1 deg upon request
Radiation tolerance	> 24 krad
Dimensions	22 x 15 x 5.3 mm3
Data rate	4, 8, 16 Hz

price on request



TENSOR TECH

TensorFSS-30M Fine Sun Sensor

High-precision 2-axis digital fine sun sensor with 120° FOV and sub-0.2° accuracy, featuring an embedded calibration table and optional tri-axis magnetometer.

Type	2-axis digital fine sun sensor
Field of view (FOV)	120°
Accuracy (1-sigma)	< 0.2°; < 0.1° upon request
Current (active, 8 Hz continuous)	17.1 mA
Interface	RS-485
Data rate	4, 8, 16 Hz (configurable)
Supply voltage	3.3 V

price on request

Contact Tensor Tech

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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<https://tensortech.co>