

Control Moment Gyro



Low Jitter
Low
Structural Jitter



Gimbal
High-Precision
Gimbal Control



Stiffness
High Stiffness



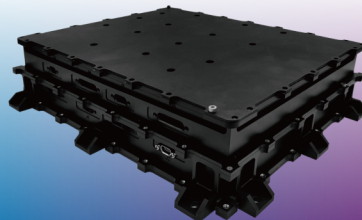
Low Power
Low Power
Consumption

Lumir, in collaboration with LIG Nex1 through the Space Pioneer Program, is localizing the development and production of key components for the Control Moment Gyroscope (CMG) system. This includes the Steering Law Control Unit (SLCU) and the Spin & Gimbal Electronics (SGE), which enable autonomous control of high-performance CMG systems. The CMG generates control torque that is dozens of times greater than that of traditional reaction wheels, supporting agile and high-speed attitude control for demanding satellite missions.

The system, comprising four units that support various control algorithms, is being prepared for flight model (FM) production and integration into medium-sized and large satellites. Designed for 500–1,200 kg platforms, the CMG delivers fast maneuverability, directional stability, ultra-low micro-vibration, and precise gimbal control—making it ideal for high-accuracy missions. Components such as precision-balanced wheels, high-stiffness bearings, and a low-power drive contribute to its reliability and efficiency in space.

Steering Law Control Unit
SLCU

Spin & Gimbal Driving Electronics
SGE



Item	Key Performance
Torque	Max. 30 N-m
Angular Momentum	Max. 15 N-m-s
Gimbal Rate	Max. 2 rad/s
Agility	≤ 15 sec @ 30°
Lifetime	7.5 years @ LEO
Mass	Total 95 kg

