MAGNETORQUER 6

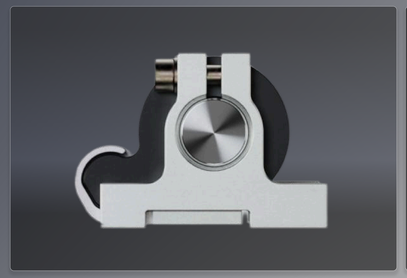
UMBRA

THE UMBRA MAGNETORQUER 6 is engineered for precise, reliable attitude control in demanding small satellite missions. Leveraging space-proven heritage and Umbra's commitment to quality, this compact torque rod delivers at least 6 Am^2 dipole moment in a minimal form factor. The Umbra Magnetorquer 6 boasts high torque per required spacecraft volume, dependable attitude control, and rigorous qualification testing. Designed for seamless integration, the Umbra Magnetorquer 6 will be ready for your mission right out of the box.

SIMPLE BUILD — SIMPLE INTEGRATION

LEO ENVIRONMENT

MULTIPLE MOUNTING OPTIONS



GENERAL SPECIFICATIONS

MAX DIMENSIONS	5.100 in x 1.440 in x 0.875 in
MASS	300 g
INPUT VOLTAGE RANGE	12 V ± 0.5 V for > 6 Am^2 performance
INPUT VOLTAGE NOMINAL	Electromagnetics designed for 12 V
PEAK POWER	4.24 W
ELECTRICAL INTERFACE	Keyed 2 pin circular connector
INTENDED SPACE ENVIRONMENT	LEO
HERITAGE	Flown on Umbra 11+
DESIGN LIFE	5+ Years
PRODUCTION	Assembled and tested in the USA
MATERIALS COMPLIANCE	ASTM E595

ENVIRONMENTAL SPECIFICATIONS

RANDOM VIBE	Qualified to 14.16 G_{rms} profile enveloping GEVS, Falcon 9, SpaceX Rideshare, and Electron levels
SHOCK	Qualified to 1000g peak profile enveloping GEVS, Falcon 9, SpaceX Rideshare, and Electron levels
OPERATING TEMPERATURE	-40°C to 80°C
SURVIVAL TEMPERATURE	-40°C to 100°C
TOTAL IONIZING DOSE DESIGN CAPABILITY	Designed to withstand at least 30 krad TID

CONFIGURATIONS

TYPE	DESCRIPTION & DETAILS	SPACE READY	TYPICAL LEAD TIME	COST
EDU	Suitable for hardware-in-the-loop testbeds	No	4-Week Lead Time	CONTACT
FLIGHT	Acceptance tested	Yes	7-Week Lead Time	CONTACT

FEATURES

SIMPLE DESIGN | SIMPLE INTEGRATION

Designed for ease of integration with any GNC system, the Magnetorquer 6 can be installed in its lightest configuration using Umbra's 4-point mounting pattern or can be adapted to any other bolt pattern with the available mounting tray. The 2-pin connection is easily integrated into any GNC system. Contact us for more information about Umbra's fully integrated GNC solution.

COMPACT POWER | HIGH TORQUE DENSITY

The Umbra Magnetorquer 6 delivers a powerful 6 Am^2 dipole moment in a remarkably compact and lightweight form factor. This high torque density maximizes control authority while minimizing mass and volume, optimizing your satellite's payload capacity and maneuverability.

SEAMLESS INTEGRATION | OPERATIONALLY READY

The Umbra Magnetorquer 6 features a highly compact design, thoughtful connector placement for tight packaging, and an integrated mounting bracket for flexible installation options. This meticulous design simplifies physical integration into SWaP-constrained small satellite platforms, reducing assembly time and complexity.

PRECISION ENGINEERING | BUILT-TO-LAST

The Umbra Magnetorquer 6 is built for the demanding space environment, utilizing space-rated materials with low outgassing properties (compliant with ASTM E595). It undergoes rigorous testing, ensuring exceptional reliability and long-term performance in orbit.

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https://umbra.space/space-systems
space.systems@umbra.space