MINERVA DYNAMICS

Product Datasheet

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Tor-Dyn-50-12

Tor-Dyn Series · Rod Magnetorquer

Overview

The Tor-Dyn-50-12 is a compact ferromagnetic-core rod magnetorquer providing a nominal dipole moment of 5,0 Am² at 5 V, sized for CubeSat attitude control: detumbling, momentum dumping and fine attitude adjustments in low Earth orbit.

A precision-wound copper coil gives a linear dipole response across the 0–5 V range at only 0,81 W, for straightforward integration with standard CubeSat power systems.



5,0 Am²	0,81 W	688 g
Dipole moment	Power at 5 V	Mass

Specifications

PERFORMANCE	
Magnetic dipole moment (nominal)	**5,0 Am²**
Magnetic gain	**27,3 Am²/A**
Dipole linear voltage range	**0 – 5 V**
ELECTRICAL	
Nominal input voltage	**5 V**
DC resistance (20 °C)	**33,1 Ohm**
Current at nominal voltage	**151 mA**
Power consumption (typical)	**0,81 W**
Coil layers	**12**
MECHANICAL	
Rod length	**230 mm**
Diameter	**20,0 mm**
Mass	**688 g**
Envelope shape	**Cylinder**

Outline (not to scale)



Features

- Linear, repeatable dipole response with low power draw.
- Compact rod geometry for 1U–6U CubeSat ADCS layouts.
- Compatible with standard 5 V CubeSat power buses; PWM-driveable.
- Customized versions: we can manufacture in different geometries and power consumptions for your needs.
- Delivery within 1 month. TRL 6.

Values are nominal at 20 °C. Specifications are subject to change without notice. Customized versions available on request.