MINERVA DYNAMICS

Product Datasheet

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Tor-Dyn-04-10

Tor-Dyn Series · Rod Magnetorquer

Overview

The Tor-Dyn-04-10 is a compact ferromagnetic-core rod magnetorquer providing a nominal dipole moment of 0,4 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 0,48 W, for straightforward integration with standard CubeSat power systems.



0,4 Am²	0,48 W	41 g
Dipole moment	Power at 5 V	Mass

Specifications

PERFORMANCE	
Magnetic dipole moment (nominal)	**0,4 Am²**
Magnetic gain	**4,2 Am²/A**
Dipole linear voltage range	**0 – 5 V**
ELECTRICAL	
Nominal input voltage	**5 V**
DC resistance (20 °C)	**52,2 Ohm**
Current at nominal voltage	**96 mA**
Power consumption (typical)	**0,48 W**
Coil layers	**10**
MECHANICAL	
Rod length	**80 mm**
Diameter	**10,0 mm**
Mass	**41 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.