MINERVA DYNAMICS

Product Datasheet

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# Tor-Dyn-20-10

Tor-Dyn Series · Rod Magnetorquer

## Overview

The Tor-Dyn-20-10 is a compact ferromagnetic-core rod magnetorquer providing a nominal dipole moment of 2,0 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 0,75 W, for straightforward integration with standard CubeSat power systems.




| 2,0 Am² | 0,75 W | 184 g |
|---|---|---|
| Dipole moment | Power at 5 V | Mass |

## Specifications

| | |
|---|---|
| **PERFORMANCE** | |
| Magnetic dipole moment (nominal) | **2,0 Am²** |
| Magnetic gain | **13,3 Am²/A** |
| Dipole linear voltage range | **0 – 5 V** |
| **ELECTRICAL** | |
| Nominal input voltage | **5 V** |
| DC resistance (20 °C) | **33,2 Ohm** |
| Current at nominal voltage | **151 mA** |
| Power consumption (typical) | **0,75 W** |
| Coil layers | **10** |
| **MECHANICAL** | |
| Rod length | **130 mm** |
| Diameter | **10,0 mm** |
| Mass | **184 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.