MINERVA DYNAMICS

Product Datasheet

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# TORDYN-56-26

Tor-Dyn Series · High-Dipole Rod Magnetorquer

## Overview

The TORDYN-56-26 is a Hiperco 50A-core rod magnetorquer delivering a nominal dipole moment of 5,6 Am² at 9 V for CubeSat and small-satellite attitude control: detumbling, momentum dumping and fine pointing in low Earth orbit.

Its precision-wound 26-layer copper coil keeps power consumption at 0,13 W while staying well below core saturation, giving a linear, repeatable dipole response across the 0–9 V drive range.

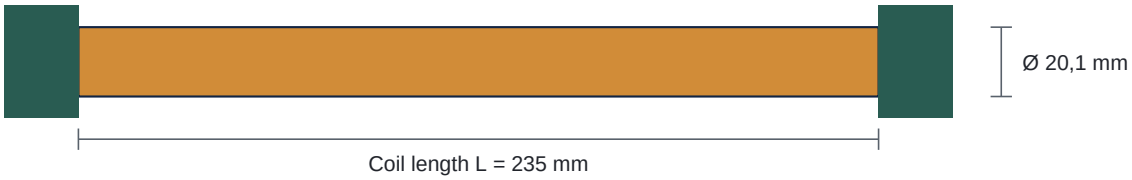



| 5,6 Am² | 0,13 W | 413 g |
|---|---|---|
| Dipole moment | Power at 9 V | Mass |

## Specifications

| | |
|---|---|
| **PERFORMANCE** | |
| Magnetic dipole moment (nominal) | **5,6 Am²** |
| Magnetic gain | **377,5 Am²/A** |
| Dipole linear voltage range | **0 – 9 V** |
| Core material | **Hiperco 50A (Fe-Co-V)** |
| **ELECTRICAL** | |
| Nominal input voltage | **9 V** |
| DC resistance (20 °C) | **602,9 Ohm** |
| Current at nominal voltage | **15 mA** |
| Power consumption (typical) | **0,13 W** |
| Coil layers | **26** |
| **MECHANICAL** | |
| Rod length | **235 mm** |
| Outer diameter | **20,1 mm** |
| Mass | **413 g** |
| Envelope shape | **Cylinder** |

### Outline (not to scale)




### Features

- High dipole moment with low power draw and linear response.
- Hiperco 50A core for a large saturation margin; even-layer winding with both leads at one end.
- Compatible with standard small-satellite 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.