

Space Technology

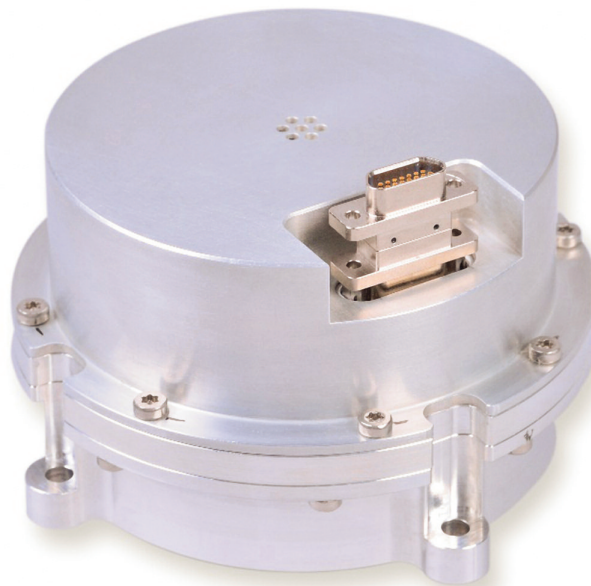
AOCS-Components



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Reaction Wheel RW 35 for Nano and Micro Satellites

The RW 35 is a **smart** Reaction Wheel with following features:

- Integrated wheel drive electronics with latch-up protection
- Different operation modes for speed and acceleration using model based controllers
- High torque and speed stability (low noise)
- Provides extensive housekeepings (e.g.: speed, voltage, current, temperatures)
- Internal compensation of friction and time delays
- Low level emitted vibrations, due to the mechanical design and the high level of alignments and balancing

Parameters**Data****Performance:**

Angular momentum	0.1 Nms @ 5 000 rpm
Nominal rotation speed	5 000 rpm
Max. rotation speed	5 000 rpm
Nominal torque	0.005 Nm

Mechanical:

Mass	< 0.5 kg
Dimension (with flange and connector)	102 mm x 102 mm x 58 mm
Moment of inertia (rotating mass)	$1.9 \cdot 10^{-4}$ kgm ²

Electrical:

Voltage	12.0 ± 0.6 V
Power consumption	
Standby (motor off)	≤ 2.0 W
Conservation of nominal rotation speed	≤ 4.0 W
Maximum (no limitations)	≤ 9.0 W

Data Interfaces:

RS-422, RS-485 optional
(others on request)

General:

Operation temperature range	-20°C to +50°C
Non-operation temperature range	-30°C to +60°C
Design lifetime	5 years in low earth orbit
Storage time	3 years (incl. max. 240 h of ground operation)