DATASHEET

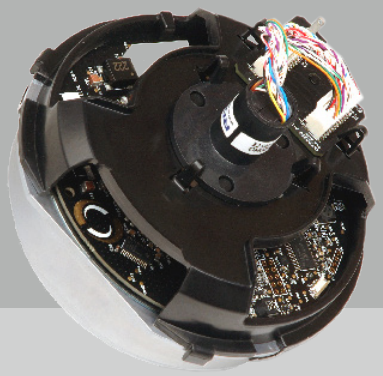
Overview
Agile Positioning Systems

ARTEMIS™

Servotorq II™ Integrated Servo Motor

FEATURES

- All-In-One Direct-Drive Motion
- Class-Leading Positional Accuracy
- Ultra smooth and near silent
- True Zero Backlash
- Low Size, Weight and Power
- 3.0Nm Output Torque
- Integrated Slip ring



Compact, Agile, Smooth and Accurate Sensor Positioning

Artemis is the first product in Overview's **Servotorq II** series of second-generation, Integrated Servo Motors. Retaining all the advantages of the original Servotorq's proven, direct-drive technology, Servotorq II features significant enhancements and performance improvements resulting from a new motor design, current vector control and a unique new control scheme.

All In One Solution

Eliminating the need for separate components, Artemis combines a BLDC motor, advanced control electronics, high-performance servo and precision rotary position encoders into a fully integrated, direct-drive, positioning solution.

Designed for applications requiring exceptional positional accuracy and repeatability, Artemis delivers ultra-smooth, agile, silent, and precise motion in a standalone package. Delivering 50% higher torque than previous Servotorq integrated servo motors, Artemis retains its compact footprint, making it ideal for integration into a wide variety of sensor position applications including broadcast and surveillance cameras.

Easy Integration

Artemis has been designed with simplicity for the integrator in mind. Supported by its simple connectivity via a standard I²C interface, Artemis significantly reduces product development effort and overall system costs, which means reduced time-to-market and production efficiencies. Artemis is directly interchangeable with Overview's Atlas Integrated Servo Motor, making it ideal for existing integrators looking to enhance their positioning solution further. Also, because Artemis offers simplified tuning, development times can be reduced even further.

Best in Class Performance

Integrated drive control electronics and software provide rapid and precise positional control, with 0.0055° repeatability and true zero backlash as well as closed-loop velocity and acceleration control with jerk limit. Artemis has a wide dynamic speed range of between 0.05°/s and 720°/s.

Servotorq II Enhancements

OTBRC Servo Technology
Overview's Trajectory Based Robust Control delivers exceptional servo performance and dynamic control loop monitoring resulting in a stiff and fast control loop. This enables precise trajectory tracking which is resistant to external disturbance such as wind gusts and is easy to tune for optimised performance.

Simplfied-Tuning
Unlike tradition servos, Servotorq II's OTBRC servo solution enables simplified tuning reducing integration time and the ability to dynamically adjust the tuning to optimise the servo performance.

Expansion Connector
Servotorq II includes an interface connector, providing additional GPIO and buses. Customer-specific enhancements can be rapidly enabled via this connector.

Magnetic Induction Braking
Artemis provides passive control process to damp the susceptibility to extreme motion when the unit is unpowered.

Power Protection & Diagnostics
Advanced power protection, debug and diagnostics capability means shorter development times and costs.

Absolute Position Feedback
Servotorq II offers near instant start-up, removing the need for magnetic alignment and zero-point calibration and delivering robust position feedback under all operating conditions.

Designed for Autonomy
Servotorq II is designed for the levels of agility demanded when an autonomous computer is providing the position demands to the system.

Technical Specification

Electrical Specifications	
Nominal Voltage	48V DC
Current at max torque (at nominal voltage)	1A
Idle, no load, current	32mA
Position command & readback resolution	0.0055°
Maximum speed	720°/s
Min. non-zero speed	0.05°/s
Mechanical Specifications	
Weight	1.3kg
Rotor moment of inertia	11,230gcm²
Stall torque	3.0Nm
Moving Torque (at 360°s^{-1})	2.4Nm
Perpendicularity	<+/-0.5°
Maximum radial load	550N
Maximum axial load	550N
Bearing Type	Deep groove ball bearing (sealed)
Rotation Range	Software configurable for continuous or limited rotation
Hollow Spindle bore internal dia.	16.5mm
Environmental Specifications	
Operational Temperature Range	-40°C to +70°C
Humidity Range (Standard Operation)	5% to 90% RH at 40°C

Note: Specifications subject to change without notice.

Artemis is part of the Servotorq II series of second generation Integrated Servo Motors, designed, developed and manufactured by Overview Ltd. Other models in the Servotorq range include: Titan™, Leto™, Miranda™, and Atlas™.

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