

Precision
Performance
Power



motion control

Mechatronic Drive Systems

Electrification for Land and Naval Systems

Engineered for victory in tomorrow's battlefield, WITTENSTEIN motion control provides intelligent and integrated electromechanical drive systems of the highest reliability for rotary and linear motion in defense applications. Based on proven WITTENSTEIN technology, all our customized products are designed to deliver industry-leading performance in accordance to military standards for extreme environmental conditions - built and assembled using reliable manufacturing processes of the WITTENSTEIN group.

Custom Rotary Actuators



1

Torque Capacity

Up to +50%*

- Optimized mass inertia
- Increased dynamics
- Improved efficiency
- Higher peak accelerations compared to direct drive

2

Power Density

Up to +90%*

- Reduced energy consumption
- Reduced installation space
- Industry-leading power to weight/size ratio

3

Rigidity

Up to +60%*

- Coupling-free integration
- Increased repeatability
- Reduced lost motion under peak loads

4

Precision

≤1-3 arcmin

- Smooth path control
- Vibration-free motion
- Reduced backlash for precise positioning

Technical Data

Product Type		TPM+ High Torque
Ratio ^{a)}	i	22-220
Number of Sizes		4
Max. Backlash ^{a)}	i _t [arcmin]	Standard ≤ 1- 3 Reduced ≤ 1
Max. Torque	T _{2a} [Nm]	230-3100
Max. Input Speed	n _{1Max} [rpm]	220
Torsional Rigidity	C ₁₂₁ [Nm/arcmin]	730
Max. Tilting moment	M _{2KMax} [Nm]	3280
Ambient Temperature	°C	-34° to +55°

*Compared to standard rotary actuators

Size	Installation length in mm	Max. Acceleration torque in Nm	Max. Power in kW
010	From 183	Up to 230	Up to 4.5
025	From 219	Up to 530	Up to 9.8
050	From 279	Up to 950	Up to 15.6
110	From 328	Up to 3100	Up to 49.9



1249 Humbracht Circle, Bartlett, IL 60103

www.wittenstein-us.com/defense



Vehicle Control

- Power Generation
- Drive / Throttle / Brake-by-wire
- Hub Motors / Drives
- Parasitic Load Elimination

Turret Control

- Azimuth / Elevation Drive for Main Battle Turret
- Azimuth / Elevation Drive for Weapons Stations
- Actuator Controllers
- Weapon Gyros

Peripheral Systems

- Ammunition Loading and Selection
- Active Protection
- Hatch / Door / Ramp Movement
- Pan & Tilt System

Our North American headquarters in Bartlett, Illinois houses our executive, sales, engineering and technical support teams, as well as our Technical Center for machining, assembly, testing, service and inventory of products. We locally produce 75% of the products we offer, while continuing to add to our local production portfolio. Our Midwest U.S. location puts product, expertise and quality within easy reach for our customers in North America. You can always contact WITTENSTEIN motion control for assistance with technical, design or application-specific questions.



<< See our Defense Solutions

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