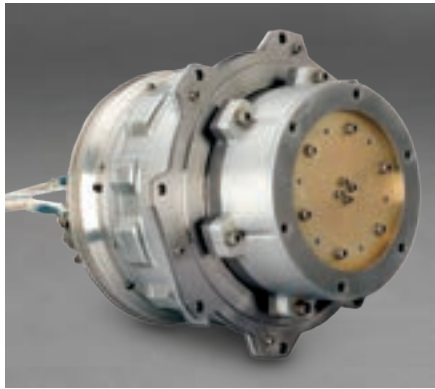


## HIGH TORQUE/SMALL ANGLE ROTARY INCREMENTAL ACTUATOR



The Moog High Torque Type 5 rotary incremental actuator is a compact, closely integrated design made up of two key elements: a motor and a multi-stage speed reducer. The motor is the heritage 1.5-degree permanent magnet stepper with a relatively high unpowered holding torque. The multi-stage speed reducer, consisting of an input planetary stage and a harmonic drive, offers a large reduction ratio (320:1), low weight, zero backlash and high torsional

stiffness. Coaxial nesting of the motor and transmission drive elements gives the unit an optimized geometry. All of the electrical elements, such as motors and position sensors, can be redundant with little or no change in actuator envelope.



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# HIGH TORQUE/SMALL ANGLE ROTARY INCREMENTAL ACTUATOR

## SPECIFICATIONS

Parameter	Performance
Output Step Angle (degree)	0.0047
Steps Revolution	76,800
Transmission Ratio	320
Motor Step Angle (degree)	1.5
Max. Output Step Rate (pps)	384
Max. Output Speed (deg/sec)	1.8
Torsional Stiffness	175,000 (lb-in/rad) 19,770 (N-m/rad)
Shaft Load Capability Axial	840 (lbf) 3,750 (N)
Transverse	1,800 (lbf) 8,036 (N)
Moment	250 (ft-lb) 339 (N-m)
Power Max. (Watts) @ 20.5 VDC	16
Inertial Capability	7376 (slug-ft <sup>2</sup> ) 10,000 (Kg-m <sup>2</sup> )
Output Torque	1,000 (lb-in) 113 (N-m)
Unpowered Holding Torque (min.)	550 (lb-in) 63 (N-m)
Powered Holding Torque (min.)	1800 (lb-in) 203 (N-m)
Total Assembly Weight	7.10 (lb) 3.23 (Kg)



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