HONEYBEE ROBOTICS
A BLUE ORIGIN COMPANY

POINTING MECHANISM/ACTUATOR

P35 Actuator

Honeybee Robotics' P35 rotary actuator is designed to fit common mechanical interface requirements while providing superior performance. The P35 is suitable for long life missions requiring best-in-class reliability via fully redundant motor windings and output potentiometers. Four configurations with flight heritage are available with varying output step sizes and rates. Redundant heaters and thermistors located near the input bearings conserve power and support extended temperature range operations.

P35 Actuator

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Parameter	Units	P35-3-0024	P35-3-0075	P35-3-0060	P35-3-0188
Output Step Size[1]	deg	0.0024	0.0075	0.0060	0.01875
Motor Design	-	Redundant Hybrid Stepper	Redundant Hybrid Stepper	Redundant Permanent Magnet Stepper	Redundant Permanent Magnet Stepper
Gear Ratio	-	501.32:1	160:1	501.32:1	160:1
Motor Step Size[1]	deg	1.2	1.2	3	3
Phase Resistance (nom)	Ω	100	100	74	74
Power (max)[2]	W	12.4	12.4	16.7	16.7
Unpowered Holding Torque (min)	N•m [In•lb]	45.2 [400]	13.5 [120]	45.2 [400]	13.5 [120]
Powered Holding Torque (nom)[3]	N•m [In•lb]	203 [1800]	69 [610]	203 [1800]	69 [610]
Speed (nom)[4]	deg/sec	0.15	0.48	0.38	1.2
Mass with Hardstops	kg [lb]	2.16 [4.75]	1.97 {4.34]	2.19 [4.81]	2.00 [4.41]
Range of Motion	deg	Continuous or Hardstop Limited[5]			
Motor Phases	-	3			
Operational Voltage Range	V	24-29.5			
Loaded Torsional Stiffness (min)[6]	N•m/rad [In•lb/rad]	27,116 [240,000]			
Bending Stiffness (min)[6]	N•m/rad [In•lb/rad]	112,985 [1,000,000]			
Bending Moment Load Capacity	N•m [In•lb]	879 [7780]			
Axial Load Capacity	kN [lb]	32 [7200]			
Radial Load Capacity	kN [lb]	16 [3600]			
Non-operational Temperature Range	° C	-60 to +115			
Operational Temperature Range[7]	° C	-50 to +105			

[1] Angle approximate
[2] At maximum voltage, full duty cycle, and cold operational temperatures
[3] Ambient conditions
[4] Speed performance may vary on use case
[5] Definable stop layouts available for custom set range of motion
[6] Measured at 400 in-lbf output torque applied
[7] Operational temperature range is dependent on the load and inertia applied as torque margins change with temperature

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CONTACT US

Request more information at https://www.blueorigin.com/contact-product-sales