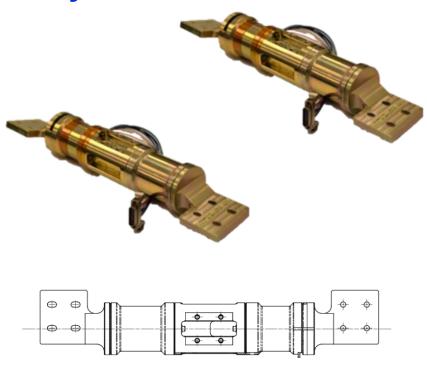


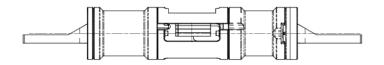
DEPLOYMENT ACTUATOR

Powered Hinge

More than 1,400 units of Honeybee Robotics' powered hinges were designed for low-cost, high-volume applications using carefully selected COTS components. Key elements include a stepper motor, position sensing, and integrated heater. Power transfer across the hinge is with an external harness.

Standard Powered Hinge





HONEYBEE ROBOTICS A BLUE ORIGIN COMPANY

DEPLOYMENT ACTUATOR

Powered Hinge

Parameter	Value	Comments
Range of Motion	-90° to +180°	Hard stops at limits
Life	5,000 cycles	Cycle is -90° to +90° to -90°
Motor Type	2 phase stepper	Only 1 phase energized
Drive Voltage	19.9 to 37.7 VDC	-
Drive Current	111.5 mA +/- 1%	-
Step Size	0.04 deg/step	Maximum
Slew Rate	0.3 deg/s	Maximum
Output Torque	1.75 Nm	Minimum
Unpowered Holding Torque	3.0 Nm	Minimum
Backdrive	Allowable	No degradation
Backlash	0.033°	At output
Torsional Stiffness	1,000 Nm/rad (min)	At output
Positional Sensor Accuracy	+/- 3° (zero position) +/- 5° (non-zero position)	Magnetic sensing switches
Heater	4.9 W / 27 VDC	Integrated
Temperature Sensing	Yes	Redundant thermistors
Mass	< 0.75 kg	-
Thermal	-50° C to +85° C	Qualification

Release Date: 06-23-2025



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