



Electromechanical Actuators

Precise, reliable actuation for mission-critical positioning, control, and automation.

Frontgrade's actuators are designed for precision motion in demanding environments. The electromechanical actuator delivers controlled force, speed, and position in a compact, integration-ready package. The actuator combines a high-performance motor, mechanical transmission, bearings, and optional position feedback to provide reliable linear or rotary motion from an electrical command.

Closed-loop control enables accurate positioning, programmable motion profiles, load holding, and real-time status monitoring. Configurable stroke, gearing, feedback, braking, mounting, and environmental options allow the actuator to support applications ranging from industrial automation to aerospace and defense systems. Compared with hydraulic and pneumatic alternatives, electromechanical actuation can reduce system complexity, eliminate fluid leaks, improve energy efficiency, and simplify maintenance.

FEATURES:

- Precise position, speed, and force control
- High force or torque density
- Programmable motion profiles with integrated monitor and control
- Low power consumption at idle

APPLICATIONS:

- Flight-control surface actuation
- Weapon-bay door operation
- Gimbal, turret, and sensor positioning
- EO/IR payload stabilization
- Radar and communications antenna deployment
- Missile fin and thrust-vector control
- Spacecraft docking, latching, and release, deployment, and positioning mechanisms

Actuators

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Part Number	Peak / Continuous Power (W)	Peak Torque (in-lb)	Continuous Torque (in-lb)	No Load Speed (Vdc, RPM)	Step Angle (°/step)	Unpowered Holding Torque (in-lb)	Size (L x H x W, inches)
16229	8.2/3	16.57	10.125	61 @ 22.5	0.45	4.17	2.218 X 3.51
16239	0.50/0.125	0.0875	0.06875	357.6 @ 2.2	1.875	0.56	0.392 X 1.047
16240	0.50/0.125	1.15	0.84375	22.35 @ 2.2	0.1172	8.89	0.392 X 1.251
16243	8.2/3	41.41	25.25	15.0 @ 22.5	0.18	11.6875	2.218 X 3.51
16243-2	8.2/3	41.41	25.25	15.0 @ 22.5	0.18	11.6875	2.218 X 3.51
16250	2.8/1	2.95	1.77	86.66 @ 9.5	2.06	0.18	1.055 X 2.09
16283	9/2.8	230.0	130	1.43 @ 6.3	0.225	55.56	2.00 X 6.565
16296	47/14	7080.6	3805.8	1.15 @ 30.0	0.003	522.22	6.756 X 11.95
16350	8.2/3	16.57	10.125	61 @ 22.5	0.45	4.17	2.218 X 3.51
16359	0.50/0.125	0.0875	0.06875	357.6 @ 2.2	1.875	0.56	0.392 X 1.149
16372	9/2.8	230.0	130.0	1.43 @ 6.3	0.225	55.56	2.00 X 6.565
16374	23.5/8.4	6372.5	3805.8	0.80 @ 28	0.003	522.22	6.417 X 10.41
16376	100.8/6.11	5930.0	1460.4	2.0 @ 28.0	0.01465	142.22	5.1968 X 8.425
16377	100.8/6.11	5930.0	1460.4	2.0 @ 28.0	0.01465	142.22	5.590 X 8.740
16378	15.9/8.2	1535.5	1100	3.0 @ 20.0	0.005	1100.0	2.78 X 5.07
16379	15.9/10.8	78.8	65	60.0 @ 20.0	0.10	65.0	2.364 X 3.79
16383	7.0/2.2	7576.9	4224	0.72 @ 12.3	0.02276	164.77	1.920 X 4.561
16385	15.9/8.2	3071.0	2200	1.5 @ 20.0	0.0025	2200.0	2.78 X 5.56
16401	1.7/0.32	40.18	17.35	3.74 @ 27.5	0.0625	7.97	2.83 X 2.77
16402	1.7/0.32	40.18	17.35	3.74 @ 27.6	0.0625	7.97	2.83 X 2.77
16419	8.8/0.4	2600	1400	1.6875 @ 20.0	0.0025	1500	2.95 X 5.65
16420	14.2/0.2	412.5	170	13.5 @ 20.0	0.02	300	2.95 X 4.95
16421	46.8/0.014	300	31	33.75 @ 20.0	0.05	160	2.95 X 4.61
16423	2.56/0.27	300.9	97.4	1.11 @ 26.0	0.009375	215.89	5.25 X 6.181
16424	2.56/0.27	300.9	97.4	1.11 @ 26.0	0.009375	215.89	5.25 X 6.181
16434	5.6/0.21	320	60	0.85 @ 23.0	0.00506	240	2.58 X 4.748
16434-2	5.6/0.21	320	60	1.04 @ 28.0	0.00506	240	2.58 X 4.748
16453	3.6/0.43	1733	600	0.275 @ 17.0	0.009375	60	3.12 X 6.56
16488	7.0/6.84	10.44	9.29	51 @ 28.0	0.05	7.43	2.756 X 2.756
16489	7.0/6.84	10.44	9.29	51 @ 28.0	0.05	7.43	2.756 X 2.756
16490	7.0/6.84	10.44	9.29	51 @ 28.0	0.05	7.43	2.756 X 2.756
16500	2.97/0.517	726.5	336.9	0.31 @ 28.0	0.02198	295.67	2.365 X 4.330
16501	2.97/0.517	726.5	336.9	0.31 @ 28.0	0.02198	295.67	2.365 X 4.330
16502	2.97/0.517	726.5	336.9	0.31 @ 28.0	0.02198	295.67	2.365 X 4.330
16598	0.75/0.17	12	5.7	11.0 @ 15.0	0.3066	6.10	0.884 X 3.158
16603	15.5/9.74	1119	780	1.18 @ 28.0	0.015	35.0	3.3 X 9.45

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