

PAD7220



PAD7220 is a high-power PAD motor designed for industrial applications. PAD is a drive technology transforming the linear motion of high performance piezo multilayer actuators into a powerful and precisely controllable rotation. PAD7220 includes four multilayer piezo stacks in a robust construction, providing high performance in a compact package.

FEATURES

Precision

- Positioning accuracy, repeatability and resolution (<2 arc seconds) without encoders/decoders
- No gearbox required/no backlash
- No overshooting

Dynamics

- High acceleration and deceleration without e-brake, typically <0.1 ms (low inertia)
- Slow and precise motion possible (0 to 60 rpm)
- Speed is independent of load

Torque/load sensing

- Smart load sensing without torque sensors
- High torque without gearbox/no backlash (typical up to 5 Nm)
- Overload protection

Others

- Synchronization of multiple PADs possible
- No power consumption when holding a load
- No magnetic stray fields

SPECIFICATIONS FOR PAD7220

Parameter	Value	Tolerances
Mechanical interface		
Shaft diameter	10 mm	± 0.01
Fixed interface	4 x M4	-
Max. axial load	10 N	Max.
Max. radial load	450 N	Max.
Mass (incl. cover and connector)	865 g	Max.
Shaft inertia	0.423 Kg·mm ²	-
Operating conditions		
Maximum recommended voltage	200 V	Max.
Minimum recommended voltage	-20 V	Min.
Rotation per PAD cycle θ_c	1/320 turns	-
Acceleration time from 0 to rated speed	0.1 ms	Max.

Parameter	Value	Tolerances
Torque-speed characteristics at room temperature		
Rated frequency	300 Hz	-
Maximum recommended frequency, short operation	1,800 Hz	-
Rated torque	4 Nm	± 2
Rated speed	56.25 rpm	-
Max. speed	337.50 rpm	-
Electrical interface		
Capacitance C (1 Vrms, 1 kHz)	3.5 µF	±15 %
Loss factor tanδ (1 Vrms, 1 kHz)	2.4 %	Max.
Connector reference (LEMO)	EGG.2B.314.CLL	-
Internal construction		
Number of actuators	4	-
Housing material	X8CrNiS 18-9	-
Environment		
Operating temperature range	0 – 60 °C	-
Storage temperature range	0 – 60 °C	-