

Performance Specifications

Table 1

ACTUATOR		FHA-14A		FHA-17A		FHA-25B	
		6003	3003	6006	3006	6015	3015
Rated Output Power*	W	25	25	62	62	160	160
Rated Torque*	in-lb	35	69	89	177	221	451
	Nm	3.9	7.8	10	20	25	51
Max. Cont. Stall Torque*	in-lb	49	97	124	239	310	628
	Nm	5.5	11	14	27	35	71
Max. Output Torque*	in-lb	159	248	301	478	867	1390
	Nm	18	28	34	54	98	157
Rated Output Speed	rpm	60	30	60	30	60	30
Maximum Output Speed	rpm	80	40	80	40	80	40
Rated Current*	A	0.7	0.7	1.1	1.1	1.4	1.4
Maximum Current*	A	1.7	1.4	2.8	2.3	3.8	3.2
Reduction Ratio	R:1	50	100	50	100	50	100
Torque Constant	in-lb/A	124	248	133	266	266	531
	Nm/A	14	28	15	30	30	60
BEMF***	V/rpm	1.5	3.0	1.6	3.2	3.2	6.4
Electrical Time Constant	ms	0.77	0.77	0.9	0.9	1.4	1.4
Mechanical Time Constant	ms	7.1	7.1	7.9	7.9	6.7	6.7
Rated Voltage**	V	100	100	100	100	200	200
Motor Resistance***	Ω	13	13	3.7	3.7	3.7	3.7
Motor Inductance***	mH	10	10	3.3	3.3	5	5
Power Rate	kw/sec	0.14	0.14	0.55	0.55	1.1	1.1
Thermal Resistance	C/W	0.5	0.5	0.61	0.65	0.51	0.51
Thermal Time Constant	min	25	25	16	16	20	20
Encoder Resolution at Output	arc-sec	26	13	26	13	17	8.5
Moment of Inertia (at Output)	in-lb-sec ²	0.9	3.9	1.6	6.2	5.1	20.3
	kgm ²	0.11	0.46	0.17	0.70	0.57	2.3
Weight	lb	4.2	4.2	6.4	6.4	10.3	10.3
	Kg	1.9	1.9	2.9	2.9	4.7	4.7
Encoder Resolution	PPR	1000	1000	1000	1000	1500	1500
Actuator Accuracy	arc-min	1.5	1.5	1.5	1.5	1.0	1.0
Actuator Repeatability	arc-sec	±5	±5	±5	±5	±5	±5

Notes:

- Actuator specifications are values at the output of the actuator and include the efficiency of the harmonic drive gearing.
- All specifications are applicable for the actuators mounted on an aluminum heat sink of the following size (mm):

FHA-14A: 250 x 250 x 12	FHA-32B: 350 x 350 x 18
FHA-17A: 250 x 250 x 12	FHA-40B: 400 x 400 x 20
FHA-25B: 300 x 300 x 15	FHA-50A: 500 x 500 x 25

If equivalent heat sinks are not used, derating is required.
- *Values for saturated actuator temperature. Other values are for actuator temperature of 20°C.
 **Line to line measurement.
 ***Per-phase measurement.
- Encoder resolution shown is at the motor side of the gearing. Resolution at the output is derived by multiplying the encoder resolution by the gear reduction ratio.