

ALIO STAGE AND MOTOR SPECIFICATIONS

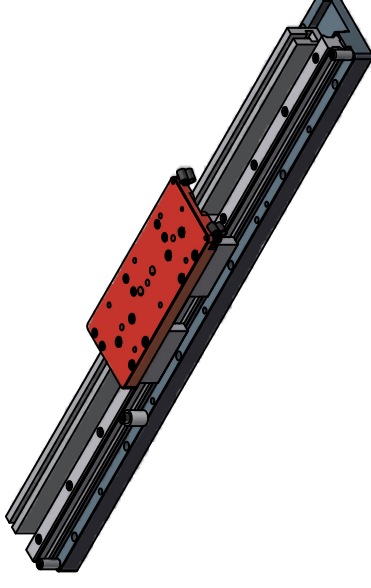
MODEL	UNITS	AI-LM-10000-UJII-SN	AI-LM-15000-UJII-SN	AI-LM-20000-UJII-SN	AI-LM-25000-UJII-SN	AI-LM-30000-UJII-SN	AI-LM-40000-UJII-SN	AI-LM-50000-UJII-SN	AI-LM-60000-UJII-SN	AI-LM-70000-UJII-SN	AI-LM-80000-UJII-SN	AI-LM-90000-UJII-SN	AI-LM-100000-UJII-SN
TRAVEL	mm	100	150	200	250	300	400	500	600	700	800	900	1000
PERFORMANCE SPECIFICATIONS [1]		(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO
LINEAR DISPLACEMENT ACCURACY	um	+/- 5	+/- 6	+/- 8	+/- 10	+/- 12	+/- 16	+/- 20	+/- 24	+/- 28	+/- 32	+/- 36	+/- 40
BIDIRECTIONAL LINEAR REPEATABILITY	um	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5	+/- 0.5
RESOLUTION	nanometers												
STRAIGHTNESS	um	+/- 3	+/- 3	+/- 4	+/- 5	+/- 5	+/- 5	+/- 6	+/- 8	+/- 8	+/- 8	+/- 10	+/- 10
FLATNESS [2]	um	+/- 3	+/- 3	+/- 4	+/- 5	+/- 5	+/- 5	+/- 6	+/- 8	+/- 8	+/- 8	+/- 10	+/- 10
PITCH	arc-sec	10	10	15	15	18	18	18	18	20	25	25	25
YAW	arc-sec	10	10	15	15	18	18	18	18	20	25	25	25
ROLL	arc-sec	6	6	8	8	10	10	10	10	12	15	15	15
MOTION PROFILE SPECIFICATIONS													
		5 mm (standard) (options available)											
MAX VELOCITY [3]	m/s	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
MAX ACCELERATION [3]	G	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
MAX VERTICAL/PAYLOAD CAPABILITY	kg	40	40	40	40	40	40	40	40	40	40	40	40
MAX HORIZONTAL/PAYLOAD CAPABILITY	kg	32	32	32	32	32	32	32	32	32	32	32	32
MAX MOMENT LOAD (YAW AND PITCH)	Nm	40	40	40	40	40	40	40	40	40	40	40	40
MAX MOMENT LOAD (ROLL)	Nm	35	35	35	35	35	35	35	35	35	35	35	35
ASSEMBLY MASS	kg	2.1	2.5	2.9	3.4	4	5	6	7	8	9	10	11
MOVING MASS	kg	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

MOTOR INFORMATION	DEFAULT MOTOR
MOTOR TYPE	LINEAR BRUSHLESS SERVO MOTOR
MOTOR MODEL	P12-2
MAGNETIC PITCH (N-N)	30.48
MAX VOLTAGE (LINE TO LINE) [4]	500
ELECTRICAL TIME CONSTANT	0.19
MAX MOTOR TEMP	130
MOTOR CONNECTION	DELTA
FORCE CONSTANT	N/Apk
PHASE RESISTANCE (@25°C) [5]	11.6
INDUCTANCE	Ohm
CONTINUOUS FORCE [6]	mH
CONTINUOUS CURRENT [6]	N
PEAK FORCE [7]	Apk
PEAK CURRENT [7]	N
BACK EMF CONSTANT	V/m/s

OPTION ("P") - NOTE 9.
OPTIONAL MOTOR WINDING
P12-2P (parallel)
30.48
500
0.20
130
DELTA
8.1
2.8
4.4
0.6
47
169
20.1
8.1

Notes:

- Specifications measured on stage centerline, 50mm above mounting surface. ALIO provides NIST traceable proof for all options/specs per quote.
- Flatness specifications dependent on system base. Contact ALIO for more information.
- Stage limitation at no load. Does not account for drive or resolution limitations.
- Back EMF plus IR drop must not exceed maximum line to line bus voltage.
- Resistance values do not include cable resistance. Cable resistance adds 0.146 ohm/m for Delta connection and 0.44 ohm/m for Wye Connection.
- Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5mm x motor length).
- Maximum on time at peak operating limits is 10 seconds.
- All electrical specifications may vary by 12% from listed values.
- Parallel coil motor "P12-2P" is an optional motor winding. Selection is designated by a "P" at the end of the stage model number.



DRAWN	1/21/2011
NBROWN	
CHECKED	
TITLE	
AI-LM-(TRAVEL)00-μII-SN	
SIZE	DWG NO
B	0010-08052
FINISH	SCALE
SEE NOTES	ALIO STD TEMPLATE - REV 006
	1 OF 1

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AI-LM-(TRAVEL)00-μII-SN

REV 002

1 OF 1 SHEET