

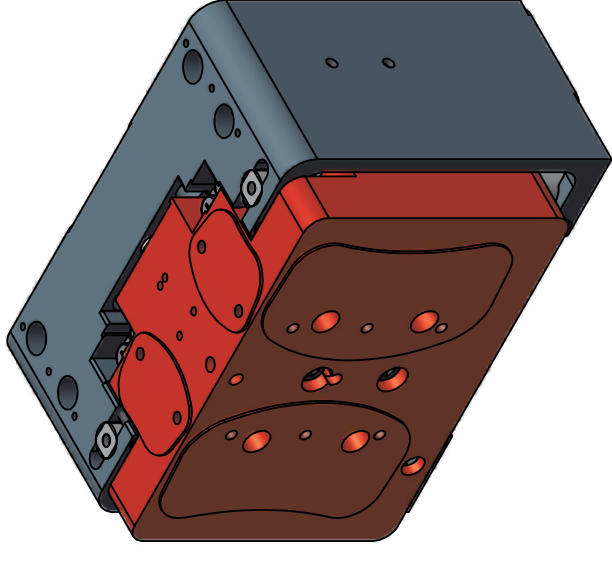


ALIO STAGE AND MOTOR SPECIFICATIONS

MODEL	UNITS	AI-LM-2400-("PAYLOAD")-Z-MCB-("ORIENTATION")
Z TRAVEL (BETWEEN HARD STOPS)	mm	24
MODEL OPTIONS		
"PAYLOAD" (NOMINAL)	N	"2N" "8N" "14N" "19N" "24N"
MINIMUM TO MAXIMUM PAYLOAD RANGE	N	0-6N 4-12N 10-18N 15-23N 18-30N
"ORIENTATION" (UPRIGHT / INVERTED)	-	UPRIGHT = (blank) / INVERTED = "INV"
PERFORMANCE SPECIFICATIONS [1]		
LINEAR DISPLACEMENT ACCURACY	um	(STD) ULTRA +/-0.7 NANO +/-0.3
BIDIRECTIONAL LINEAR REPEATABILITY	nanometers	+/- 75 +/- 45
RESOLUTION	nanometers	5 nm (standard) (options available)
STRAIGHTNESS	um	+/- 3.0 +/- 2.0
FLATNESS [2]	um	+/- 3.0 +/- 2.0
PITCH	arc-sec	10
YAW	arc-sec	10
ROLL	arc-sec	10
MOTION PROFILE SPECIFICATIONS		
MAX VELOCITY [3]	m/s	0.1
MAX ACCELERATION [3]	G	0.5
MAX PAYLOAD CAPABILITY	kg	SEE MODEL OPTIONS ABOVE
ASSEMBLY MASS	kg	4.6
MOVING MASS	kg	2.0
MOTOR INFORMATION		
MOTOR TYPE	-	LINEAR BRUSHLESS SERVO MOTOR
MOTOR MODEL	-	P16-1
MAGNETIC PITCH (N-N)	mm	30.48
MAX VOLTAGE (LINE TO LINE) [4]	V	500
ELECTRICAL TIME CONSTANT	msec	0.20
MAX MOTOR TEMP	°C	130
MOTOR CONNECTION	-	DELTA
FORCE CONSTANT	N/Apk	14.3
PHASE RESISTANCE (@25° C) [5]	Ohm	5.9
PHASE RESISTANCE (@130° C) [5]	Ohm	8.3
INDUCTANCE	mH	1.2
CONTINUOUS FORCE [6]	N	47
CONTINUOUS CURRENT [6]	Apk	3.2
PEAK FORCE [7]	N	148
PEAK CURRENT [7]	Apk	10.3
BACKEMF CONSTANT	V/m/s	14.3

Notes:

- Specifications measured on stage centerline, 50mm above mounting surface. ALIO provides NIST traceable proof for all options/s
- 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 v
- Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5mm
- Maximum on time at peak operating limits is 10 seconds.
- All electrical specifications may vary by 12% from listed values.
- Additional motor and travel options are available for optimized performance as necessary per customer requirements



A

DRAWN
NBROWN
CHECKED



TITLE

AI-(MOTOR)-(TRAVEL)00-
(PAYLOAD)-Z-MCB-(ORIENTATION)

SIZE
B

DWG NO
0010-08039

REV
002

FINISH
SEE NOTES

SCALE
ALIO STD TEMPLATE - REV 006

SHEET 1

OF 1

2

4

3

4

1

2

4

3

4

B

B

4

4