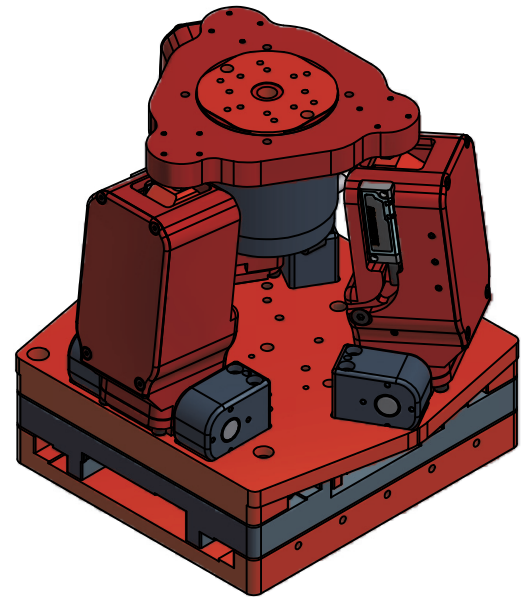
ALIO STAGE AND MOTOR SPECIFICATIONS

MODEL	UNITS	AI-HH-60XY-16Z-56R-CM
OPTION	--	"CM"=LOW FORCE XY
XY TRAVEL	mm	60
Z TRAVEL	mm	16
PITCH AND ROLL RANGE [9]	deg	+/- 10
YAW TRAVEL	deg	360 degrees continuous
MAX LINEAR VELOCITY [10]	mm/s	15
MAX ANGULAR VELOCITY (PITCH & ROLL) [10]	deg/s	20
MAX ANGULAR VELOCITY (YAW) [10]	deg/s	720
ASSEMBLY MASS	kg	5.3
X MOVING MASS	kg	4.6
Y MOVING MASS	kg	3.4
Z MOVING MASS	kg	1.0
YAW MOVING MASS	kg	0.25
YAW MASS MOMENT OF INERTIA	kg*mm^2	85
MAX PAYLOAD [11]	kg	5.0
MAX CENTER OF GRAVITY HEIGHT [11,12]	mm	100
COUNTERBALANCE PRESSURE [13]	psi	--
LINEAR RESOLUTION	nm	~5
PITCH AND ROLL RESOLUTION	arc-sec	~0.02
YAW RESOLUTION	arc-sec	0.04
YAW ROTARY STAGE	Model	AI-TM-56R
XY LINEAR STAGE	Model	AI-CM-6000-XY
TRIPOD MOTOR INFORMATION		
MOTOR TYPE	--	FRAMELESS TORQUE MOTOR
MOTOR MODEL	--	032050-8Y
MAGNETIC PITCH (N-N)	deg	180
MAX VOLTAGE (LINE TO LINE) [1]	VDC	340
MAX MOTOR TEMP	°C	155
TORQUE CONSTANT	Nm/Arms	0.1
PHASE RESISTANCE (@25°C) [14]	Ohm	4.5
INDUCTANCE	mH	3.2
CONTINUOUS TORQUE [15]	Nm	0.2
CONTINUOUS CURRENT [15]	Arms	2.3
PEAK TORQUE	Nm	0.7
PEAK CURRENT	Arms	7.3
BACK EMF CONSTANT	Vrms/krpm	5.5
YAW MOTOR INFORMATION		
MOTOR TYPE	--	FRAMELESS TORQUE MOTOR
MOTOR MODEL	--	044050-EY
MAGNETIC PITCH (N-N)	deg	120
MAX VOLTAGE (LINE TO LINE) [1]	VDC	340
MAX MOTOR TEMP	°C	155
TORQUE CONSTANT	Nm/Arms	0.030
PHASE RESISTANCE (@25°C) [14]	Ohm	2.2
INDUCTANCE	mH	1.1
CONTINUOUS TORQUE [15]	Nm	0.08
CONTINUOUS CURRENT [15]	Arms	2.8
PEAK TORQUE	Nm	0.26
PEAK CURRENT	Arms	8.8
BACK EMF CONSTANT	Vrms/krpm	1.8
XY MOTOR INFORMATION		
MOTOR TYPE	--	LINEAR BRUSHLESS
MOTOR MODEL	--	C12-1
MAGNETIC PITCH (N-N)	mm	30.48
MAX VOLTAGE (LINE TO LINE) [1]	V	500
ELECTRICAL TIME CONSTANT	msec	0.14
MAX MOTOR TEMP	°C	130
MOTOR CONNECTION	--	DELTA CONNECTED
FORCE CONSTANT	N/Apk	3.5
PHASE RESISTANCE (@25°C) [2,3]	Ohm	2.9
PHASE RESISTANCE (@130°C) [2,3]	Ohm	4.2
INDUCTANCE	mH	0.6
CONTINUOUS FORCE [4]	N	10
CONTINUOUS CURRENT [4]	Apk	2.8
PEAK FORCE [5]	N	21
PEAK CURRENT [5]	Apk	6.0
BACK EMF CONSTANT	V/m/s	3.5

Notes:

1. Back EMF plus IR drop must not exceed maximum line to line voltage.
2. Resistance values do not include cable resistance. For P16 motors cable resistance adds 0.146 ohm/m for Delta connection and 0.44 ohm/m for Wye Connection.
3. Resistance values do not include cable resistance. For C12 motors cable resistance adds 0.251 ohm/m for Delta connection.
4. Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5mm x motor length).
5. Maximum on time at peak operating limits is 10 seconds.
6. Motor Connection type is internal to motor. All stages provided with default Delta connection unless otherwise specified.
7. All electrical specifications may vary by 12% from listed values.
8. Additional motor options are available for each stage for optimized performance as necessary per customer requirements.
9. Angular travel is measured when the Z axis is at mid-stroke and the other angle is zero degrees. Devi
10. Maximum velocity specified is for motor in unloaded state. Stage velocity limitations vary greatly dep
11. Higher payload options available upon special request.
12. Contact ALIO technical sales for questions concerning high or offset centers of gravity.
13. Pneumatic counterbalance supply pressure listed is the estimated pressure required at the max payload.
14. Resistance values do not include cable resistance. Cable resistance adds 0.3 ohm/m.
15. Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 300mm x 25mm).



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DRAWN	NBROWN	5/12/2012
CHECKED		
Tolerances: Surface Roughness: x.x ± .05 in [1.3 mm] x.xx ± .01 in [0.25 mm] x.xxx ± .005 in [0.13 mm] RMS MAX. Angles ±0.5'		
MATERIAL		
FINISH	SEE NOTES	

ALIO 6-D

TITLE: AI-HH-(XY TRAVEL)XY-(Z TRAVEL)Z-(R DIAMETER)R-(OPTION)

SIZE	DWG NO	REV
B	0010-08040	002

SCALE | ALIO STD TEMPLATE - REV 006 | SHEET 1 OF 1