

	STANDARD FEATURES	
	Hybrid Hexapod	1
	6 Degrees of Freedom (X, Y, Z, Pitch, Roll, and Yaw)	
	60 mm	
od)	15 mm	
el (Tripod)	+/- 10 degrees (Pitch and Roll), 360 degrees continuous (Yaw)	
	5.0+ kg	
	Frameless Torque Motor with Precision Ball Screw	1
	Optional: Ironless Core Linear Motor	
)	Frameless Torque Motor with Precision Ball Screw	1
)	Frameless Torque Motor w/ 1:100 Strain Wave Gear Ratio	1.
' + Tripod)	Non-Contact Optical Linear Encoder (Gold Tape Scale)	1'
otary)	Non-Contact Optical Angle Encoder (Stainless Steel Ring)	1
	0 nm or 0 arc-sec (No Backlash on Any Axis)	1
	~5 nm (Linear), < 0.04 arc-sec (Angular)	1
	Integrated Home and End of Travel Limits	
	High Precision Crossed Roller Bearings (All Axes)	1
	High Flex, 10M Cycle, 3m Length	1
	Anodized Aluminum 6061-T6	1
	Standard	1
	0°C to 50°C	1
	10% to 80% Non-Condensing	1
	6-D Nano Precision [™] Test Methods	1

D	E	F	G	Η	I	J	к	L	Μ	N	Ρ
75	75	60	35	30	22.5	50	M6 or 1/4-20	M6	M5	M3	M4
75	100	75	35	30	22.5	50	M6 or 1/4-20	M6	M5	M3	M4



AI-HH-(XY TRAVEL)XY-(Z TRAVEL)Z-(R DIAMTER)RGR

		DWG NO	REV
		0010-08116	001
n	0090		3
		1	

А

3

47

	4							
MODEL		UNITS	AI-HH-6	0XY-15Z	-80RGR	AI-HH-6	0XY-15Z	-80RGR
OPTION						"LM"=HIGH FORCE LINEAR MOTOR XY		
XY TRAVEL		mm		60			60	
Z TRAVEL		mm		15			15	
PITCH AND ROLL T	RAVEL [10]	deg		+/- 10			+/- 10	
YAW TRAVEL		deg	360 d	eg conti	nuous	360 d	leg conti	nuous
PERFORMANCE SP	PECIFICATIONS [1]		(STD)	ULTRA	NANO	(STD)	ULTRA	NANO
	XY	nanometers	+/-	100	+/- 70	+/-	· 100	+/- 70
BIDIRECTIONAL	Z	nanometers	+/-	100	+/- 70	+/-	100	+/- 70
REPEATABILITY	PITCH AND ROLL	arc-sec	+/-	0.6	+/- 0.4	+/-	- 0.6	+/- 0.4
	YAW	arc-sec	+/-	0.6	+/- 0.4	+/-	- 0.6	+/- 0.4
	XY	nanometers			-			
	Z	nanometers	0 r	m/arc-	sec	0 r	،m/arc-	sec
BACKLASH	PITCH AND ROLL	arc-sec	(no bac	klash on a	any axis)	(no bac	cklash on a	any axis)
	YAW	arc-sec	,		,,			,
	XY	nanometers		< 20		<u> </u>	< 20	
MINIMUM	7	nanometers		< 20		 	< 20	
INCREMENTAL		arc-sec	<20			< 20		
STEP SIZE				< 0.1		<0.1		
				× 0.1			× 0.1	
		um	4 1					
		CONTACT ALIO TO		CONTACT ALIO TO				
3D ACCURACY [11]	FLATNESS [2]	um	DISCUSS 3D ACCURACY		DI	SCUSS	3D	
	PITCH	arc-sec			ACCURACY			
	YAW	arc-sec						
	ROLL	arc-sec						
	AXIAL RUNOUT	um	15	12	10	15	12	10
YAW RUNOUT	RADIAL RUNOUT	um	15	12	10	15	12	10
	WOBBLE	arc-sec	25	20	15	25	20	15
	XY	nanometers		~5 nm			~5 nm	
RESOLUTION	Z	nanometers	~5 nm ~0.04		~5 nm ~0.04			
	PITCH AND ROLL	arc-sec						
	YAW	arc-sec		0.03		0.03		
MOTION PROFILE S	SPECIFICATIONS							
MAXLINEAR	XY	mm/s		25			150	
VELOCITY [3]	Z	mm/s		15			15	
MAXLINEAR	XY	G		0.5			0.3	
ACCELERATION [3]	Z	G		0.5			0.3	
MAXANGULAR	PITCH AND ROLL	deg/sec		15			15	
VELOCITY [3]	YAW	deg/sec		10			10	
MAXANGULAR	PITCH AND ROLL	deg/sec^2		>1000			>1000	
ACCELERATION [3]	YAW	deg/sec^2		>1000			>1000	
MAX PAYLOAD PAYLOAD CENTER MAX XY OFFSET OF GRAVITY [12] MAX Z OFFSET		kg	l	5		İ	5	
		mm	75 75		75			
		mm						
ASSEMBLY MASS		kq		5.7		1	9.0	
	X	kg		5.4			7.9	
	Y	ka		3.8	_	53		
MOVING MASSES	7	ka		1.39		1 39		
	_ YAW	ka		0.43			0.43	
YAW MASS MOMEN		ka*mm^?		207		+	207	
		I NY IIIII Z	1	201		1	201	

Notes:

A

1. Specifications measured on stage centerline, 50mm above mounting surface. ALIO provides NIST traceable proof for all options/specs per quote.

Phone: 4006-888-532 WeChat:

2. Flatness specifications dependent on system base. Contact ALIO for more information.

3. Stage limitation at no load. Does not account for drive or resolution limitations.

4. Back EMF plus IR drop must not exceed maximum line to line bus voltage.

5. Resistance values do not include cable resistance. Cable resistance adds approximately 0.2 ohm/m.

kg*mm^2

6. Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5mm x motor length).

7. Maximum on time at peak operating limits is 10 seconds.

8. All electrical specifications may vary by 12% from listed values.

9. Additional motor and travel options are available for each stage for optimized performance as necessary per customer requirements.

10. Angular travel is specified when the Z axis is at mid-stroke and all other angles are at zero degrees.

Translation from this specified (mid-stroke) position reduces angular travel.

11. Three dimensional accuracy is affected by all error sources of all axes as well as the infinite possible

process points or tool center points. Thus a single specification is not applicable. ALIO specifies three

dimensional accuracy specifications on a case by case basis.

12. Payload Cg ideally should be in line with the yaw rotation axis (centered on mounting surface). Offset

payload must be within specified range and may influence performance.

	DRAWN			
	NBROWN	2018-04-05		
	CHECKED			
			IIILE	
			ΛΙ	
	Tolerances: Surface Roughness:			-חח-(^
	x.x ± 0.5 mm		TR	2Δ\/FI
	x.xx ± 0.13 mm			
	$x.xxx \pm 0.05 \text{ mm}$ RMS MAX	K.		
	ANGLES ± 0.5		SIZE	
	MATERIAL		D	
			D	
inionte	FINISH ACO \A/SEE NOTESA	wauni	SCALE	h con
Ш	2011-0-0-000160-0000		51716	

2



MODEL UNITS Al-HH-60XY-15Z-80RGR Al-HH-60XY-15Z-80RGR Al-HH-60XY-15Z-80RGR OPTION - - 'LINEAR MOTOR XY MOTOR INFORMATION - - 'LINEAR MOTOR' MOTOR TYPE - SCREW LINEAR BRUSH MOTOR MODEL - Al-TM-32A8-Y Al-LM-144ASN MAGNETC PITCH (N-N) mm - 30.48 MAGNETC PITCH (N-N) mm - 30.48 MAXVOLTAGE (LINE TOLINE)[4] V 340 500 MAXVOCTAGE (LINE TOLINE)[4] N NEG.00EFT. HERM NEG.00EFT. HERM DIDUCTANCE 0030 - 8.6 NEG.00EFT. HERM DIDUCTANCE 0030 - 8.6 NEG.00EFT. HERM DIDUCTANCE 0030 -	4			
OPTION LINEAR MOTOR XY MOTOR INFORMATION FRAMELESS TORQUE MOTOR WITH PRECISION BALL INFAR BRUSH MOTOR WITH PRECISION BALL LINEAR BRUSH MOTOR MOTOR MODEL AI-TM-32A8-Y AI-LM-144ASN MGONETIC PITCH (N-N) deg 160 30.48 MAGNETIC PITCH (N-N) mm 30.48 30.48 MAXOUTAGE (LINE TO LINE)[4] V 340 500 NAXOUTAGE (LINE TO LINE)[4] V 340 500 MAXOUTAGE (LINE TO LINE)[4] V 340 500 NAXOUTAGE (LINE TO LINE)[4] V 340 500 MAXOUTAGE (LINE TO LINE)[4] V 340 500 NAXOUTAGE (LINE TO LINE)[4] V 340 500 MAXOUTAGE (LINE TO LINE)[4] V 340 500 NEG.CORET.THERM DIDUCTANCE NAXOUTAGE (LINE TO LINE)[4] AITM32A84Y	MODEL	UNITS	AI-HH-60XY-15Z-80RGR	AI-HH-60XY-15Z-80RGR-LM
XY MOTOR INFORMATION FRAMELESS TORQUE MOTOR WITH PRECISION BALL LINEAR BRUSH MOTOR MOTOR TYPE - SCREW LINEAR BRUSH MOTOR MOTOR MODEL - ALTM-32A8-Y ALLM-144ASN MOTOR MAGINETIC PITCH (IN-N) deg 180 - MAGNETIC PITCH (IN-N) mm 1 - MAX VOLTAGE (LINE TO LINE)[4] V 340 500 MAX VOLTAGE (LINE TO LINE)[4] V 340 500 MAX VOLTAGE (LINE TO LINE)[4] V 340 500 MAX VOLTAGE (LINE TO LINE)[6] N - NEG COFF THERN MOTOR CONNECTION - WYE DELTA TORQUE CONSTANT N/Apk - 8.4 PHASE RESISTANCE (@ 130°C)[5] Ohm 2.2 5.8 ONTINUOUS FORCE [6] N 0.08 - CONTINUOUS FORCE [6] Nm 0.08 - PEAK TOROUE[7] Nm 0.06 - PEAK TOROUE [7] Nm 0.26 - PEAK TOROUE [7] Nm	OPTION			"LM"=HIGH FORCE LINEAR MOTOR XY
MOTOR TYPE SCREW MOTOR WITH PRECISION BALL MOTOR MOTOR MODEL AI-TM-32A8-Y AI-LM-144ASN MAGNETIC PITCH (N-N) deg 180 MAGNETIC PITCH (N-N) mm 30.48 MAGNETIC PITCH (N-N) mm 30.48 MAX DOTOR TEMP mm 1 MAX MOTOR TEMP °C 155 125 THERMAL SENSOR NEG. COEFF. THERM OTOR CONNECTION - WYE DELTA TOROUE CONSTANT NMA/pk 8.4 PHASE RESISTANCE (@ 25°C) [5] Ohm - 8.4 NUDUCTANCE mH 1.1 1.3 2.6 CONTINUOUS CORRENT [6] NM 113 2.6 3.2 PEAK FORCE [7] N 200 84 PEAKTORCE [7] NA 4.4 CONTINUOUS CORRENT [6] Apk 8.79 10.1 BACKEME CONSTANT Vms/spm 1.8 -	XY MOTOR INFORMATION			
MOTOR TYPE SCREW LINEAR BRUSH MOTOR MOTOR MODEL AI-TM-32A8-Y AI-LM-144ASB MAGNETIC FITCH (NN) mm - 30.48 MACNETIC FITCH (NN) mm - 30.48 MAX VOLTAGE (LINE TO LINE)[4] V 340 500 MOTOR CONSTANT Ni/Abk - 8.4 PHASE RESISTANCE (@ 130°C)[5] Ohm - 8.4 ONTMUOUS FORCE (6] N 113 2.6.7 PEAK TORCURE [7] Npk 2.78 3.2 PEAK TORCURE [7] Nm <td></td> <td></td> <td>FRAMELESS TORQUE</td> <td></td>			FRAMELESS TORQUE	
PRECISION BALL MOTOR MOTOR TYPE - SCREW MOTOR MOTOR MODEL - ALTM-32A8-Y ALLM-144ASN MAGNETIC PITCH (NN) mm - 30.48 MACNETIC PITCH (NN) mm - 30.48 BALL SCREW PITCH mm 1 - MAX MOTOR TEMP °C 155 125 THERMAL SENSOR - - NEG. 00EFF. THERM MOTOR CONSTANT Nm/Ams 0.030 - FORCE CONSTANT Nm/Apk - 8.4 PHASE RESISTANCE (@ 130°C) [5] Ohm 2.2 5.8 INDUCTANCE mH 1.1 1.3 26.7 CONTINUOUS CORRENT [6] Nm 0.08 - CONTINUOUS CORRENT [6] Apk 2.78 3.2 PEAK TORQUE [7] Nm 0.26 - PEAK CORRENT [6] Apk 8.79 10.1 BACKEMF CONSTANT Vimis - 8.4 PEAK CORRENT [6] Apk			MOTOR WITH	LINEAR BRUSHLESS
MOTOR TYPE SCREW MOTOR MODEL ALTM-32A8-Y AHLM-144A8N MAGNETIC PITCH (N-N) deg 30.48 BALL SCREW PITCH mm 1 MAX VOLTAGE (LINE TO LINE) [4] V 340 500 MAX MOTOR TEMP "C 155 125 THERMAL SENSOR NEG. COEFF. THERM FORCE CONSTANT Nm/Arms 0.0300 FORCE CONSTANT Nm/Arms 0.0300 EG. COEFF. THERM 8.4 PHASE RESISTANCE (@ 30°C) [5] Ohm 8.0 6.8 CONTINUOUS FORCE [6] N 113 2.6.7 8.4 PHASE RESISTANCE (@ 30°C) [5] Ohm 8.4 CONTINUOUS FORCE [6] N 113 2.6.7 CONTINUOUS TOROUE [6] N 0.26			PRECISION BALL	MOTOR
MOTOR MODEL AI-TM-32A8-Y AI-LM-144A5A MAGNETIC PITCH (N-N) mm - 30.43 BALL SCREW PITCH (M-N) mm 1 MAX VOLTAGE (IWE TO LINE)[4] V 30.40 500 MAX MOTOR TEMP *C 155 125 THERMAL SENSOR NEG.COEF.THER MOTOR CONSTANT Nn/Apk - 84. PHASE RESISTANCE (@ 25°C) (5) Ohm - 84. PHASE RESISTANCE (@ 25°C) (5) Ohm - 80. NUDUCTANCE mH 1.1 1.3 26.7 CONTINUOUS TORQUE (6) Nm 0.08 - - CONTINUOUS CURRENT (6) Apk 2.78 3.2 PEAK TORQUE (7) Nm 0.08 - PEAK TORQUE (7) Nm 0.06 - - PEAK ORRENT (7) - 84 REAK DR CONSTANT Vrms/kpm 1.8 - - BACK EMF CONSTANT Vrms/kpm 1.8 - <	MOTOR TYPE		SCREW	
MOI OR MODEL AFLM-32A8-Y AFLM-32A8-Y MAGNETIC PITCH (N-N) deg 180 MAGNETIC PITCH (N-N) mm - 30.48 BALL SCREW PITCH mm 1 - MAX NOTOR TEMP °C 155 125 MAX MOTOR TEMP °C 156 125 MOTOR CONNECTION - WYE DELTA TORQUE CONSTANT Nm/Arms 0.030 - FORCE CONSTANT Nm/Arms 0.0300 - FORSE STANCE (@25°C)(5) Ohm - 8.4 PHASE RESISTANCE (@25°C)(5) Ohm - 8.4 PHASE RESISTANCE (@25°C)(5) Ohm - 8.4 PHASE RESISTANCE (@25°C)(5) Nm 1.3 2.67 CONTINUOUS FORCE [6] N 113 2.67 CONTINUOUS TORQUE [7] Nm 0.26 - PEAK TORQUE [7] Nm 0.26 - DECK TORGONSTANT Vrms/krpm 1.8 - <t< td=""><td></td><td></td><td></td><td></td></t<>				
MAGNETIC PTICH (N-N) deg 180 BALL SCREW PTICH mm 1 MAX VOLTAGE (LINE TO LINE)[4] V 340 500 MAY OLTAGE (LINE TO LINE)[4] V 340 500 MOTOR CONNECTION - - NEG.COEF.THERI MOTOR CONSTANT N/Apk - 84 PHASE RESISTANCE (@ 25° C) [5] Ohm - 80 INDUCTANCE mH 1.1 1.3 26.7 CONTINUOUS FORCIE [6] N 113 26.7 CONTINUOUS CURRENT [6] Apk 2.78 3.2 PEAKFORCE [7] N 200 84 - ECONTANT Vms/kmm 1.8 - CONTINUOUS CURRENT [6] Apk 8.79 10.1 BACKEME CONSTANT Vms/kmm 1.8 -	MOTOR MODEL		AI-1 M-32A8-Y	AI-LM-144ASN-D
MAXIETIC FILCH (VRV) mm - -30.36 BALLS CREW PTCH mm 1 - MAX MOTOR TEMP °C 155 125 THERMAL SENSOR - - NEG.00EFF.THERM MOTOR CONNECTION - WYE DELTA TORQUE CONSTANT Nn/Arms 0.030 - FORCE CONSTANT Nn/Arms 0.030 - FORDE CONSTANT Nn/Arms 0.030 - FLASE RESISTANCE (@ 25° C) [5] Ohm - 8.4 PHASE RESISTANCE (@ 25° C) [5] Ohm - 8.0 INDUCTANCE mH 1.1 1.3 2.67 CONTINUOUS FORCE [6] N 113 2.67 . CONTINUOUS TORQUE [6] Nm 0.08 - . PEAK CURRENT [7] Apk 8.79 10.1 . BACKEMF CONSTANT V/ms/mm 1.8 - . BACKEMF CONSTANT V/ms/mm 1.8 . . MOTOR TYPE <td>MAGNETIC PITCH (N-N)</td> <td>deg</td> <td>180</td> <td></td>	MAGNETIC PITCH (N-N)	deg	180	
BALL SCREW FILCH Imm 1 MAX VOLTAGE (LINE TO LINE)[4] V 340 500 MAX MOTOR TEMP °C 155 125 THERMAL SENSOR - - NEG.COFFF. THERM TORQUE CONSTANT Nm/Arms 0.030 - FORCE CONSTANT N/Apk - 84 PHASE RESISTANCE (@25°C)[5] Ohm 2.2 5.8 PHASE RESISTANCE (@25°C)[5] Ohm - 8.0 INDUCTANCE MH 1.1 1.3 26.7 CONTINUOUS FORCE (6) N 113 26.7 200 84 CONTINUOUS FORCE (6) N 113 26.7 200 84 CONTINUOUS CURRENT [6] Apk 2.78 3.2 2 PEAK TORCE [7] N 200 84 - BACK EMF CONSTANT Vms/kmm 1.8 - - BALL SCREW PTICH Apk AP 10.1 1 1 MAX MOTOR RENT POL -		mm		30.48
MAX NOTOR TEMP V 340 300 MAX MOTOR TEMP °C 155 125 THERMAL SENSOR - - NEG.OEFF. THERN MOTOR CONNECTION - WYE DELTA TORQUE CONSTANT Nm/Arms 0.030 - FORCE CONSTANT Nm/Arms 0.030 - FORCE CONSTANT Nm/Arms 0.030 - FLASE RESISTANCE (@ 130°C) [5] Ohm - 8.4 PHASE RESISTANCE (@ 120°C) [5] Ohm - 8.0 INDUCTANCE MH 1.1 1.3 26.7 CONTINUOUS CORCE [6] N 113 26.7 CONTINUOUS CORCE [7] Nm 0.26 - PEAK TORQUE [7] Nm 0.26 - DEAC EMF CONSTAN		mm	1	
MAX.MOTOR TEMP C 155 L125 MAX.MOTOR TERNSOR - - NEG.COEFF. THERM MOTOR CONNECTION - WYE DELTA TORQUE CONSTANT N/M/mm 0.030 - FORCE CONSTANT N/Apk - 8.0 INDUCTANCE (@130*C)[5] Ohm - 8.0 CONTINUOUS FORCE [6] N 113 26.7 CONTINUOUS CURRENT [6] Apk 2.78 3.2 PEAK FORCE [7] N 200 84 - - BACK EMF CONSTANT Vrm/smp 1.8 - - BACK EMF CONSTANT Vrm/smp 1.8 - - BALL SCREW ALTM-32A&PY ALTM-32A&PY MOTOR TYPE - ALTM-32A&PY ALTM-32A&PY ALTM-32A&PY	MAX VOLTAGE (LINE TO LINE)[4]	V %	340	500
ITTERMAL SENSUR Net ODD Net ODD MOTOR CONNECTION WYE DELTA TORQUE CONSTANT N/Apk 8.4 PHASE RESISTANCE (@25°C)[5] Ohm 2.2 5.8 PHASE RESISTANCE (@130°C)[6] Ohm 8.0 INDUCTANCE mH 1.1 1.3 CONTINUOUS TORQUE [6] N 10.3 26.7 CONTINUOUS TORQUE [6] Nm 0.08 CONTINUOUS TORQUE [7] N 200 84 PEAK TORQUE [7] N 200 84 PEAK TORQUE [7] Nm 0.26 PEAK TORQUE [7] Nm 0.26 BACK EMF CONSTANT Vrms/kpm 1.8 BACK EMF CONSTANT Vrms/kpm 1.8 BACK EMF CONSTANT Vrms/kpm 1.8 MOTOR MODEL - AHTM-32A8-Y ALTM-32A8-Y MAX VOLTAGE (INF POLINE) [4] V 340 340		ι, C	155	125
MOTOR CONNECTION WTE DELTA TORQUE CONSTANT Nm/Ams 0.030 FORCE CONSTANT Nm/Ams 0.030 FORCE CONSTANT Nm/Ams 0.030 FMASE RESISTANCE (@ 130° C) [5] Ohm 8.0 INDUCTANCE mH 1.1 1.3 26.7 CONTINUOUS FORCE [6] N M113 26.7 - CONTINUOUS FORCE [7] N 200 84 - PEAK CURRENT [7] Apk 8.79 10.1 - BACKEMF CONSTANT Vrm/skmm 1.8 - - PEAK CURRENT [7] Apk 8.79 10.1 - BACKEMF CONSTANT Vrm/skmm 1.8 - - MOTOR TYPE - ALTM-32A8-Y ALTM-32A8-Y MALTM-32A8-Y MALL SCREW PITCH mm 1 1 1 MAXMOTOR TEMP *C 155 155 THERMA MOTOR TEMP *C 155 155				NEG. COEFF. THERMISTOR
I ORQUE CONSTANT NM/Ams 0.030 - PRASE RESISTANCE (@25°C)[5] Ohm - 8.4 PHASE RESISTANCE (@130°C)[5] Ohm - 8.0 INDUCTANCE mH 1.1 1.3 CONTINUOUS FORCE [6] N 113 26.7 CONTINUOUS TORQUE [6] Nm 0.08 - CONTINUOUS TORQUE [7] N 200 84 PEAK TORQUE [7] Nm 0.026 - PEAK TORQUE [7] Nm 0.026 - PEAK TORQUE [7] Nm 0.026 - PEAK TORQUE [7] Nm 0.26 - PEAK TORQUE [7] Nm 0.26 - PEAK TORQUE [7] Nm 0.26 - BACK EMF CONSTANT Vims/krpm 1.8 - BACK EMF CONSTANT Vims/krpm 1.8 - MOTOR TYPE - AITM-32A8-Y AITM-32A8 MACORTIC FUTCH (NN) deg 180 180 BALL SCREW PITCH			WYE	DELTA
LORCE CONSTANT NAPK - 84 PHASE RESISTANCE (@25°C) [5] Ohm - 80 INDUCTANCE (@130°C) [5] Ohm - 80 INDUCTANCE (@130°C) [5] Ohm - 80 CONTINUOUS FORCE [6] N 113 26.7 CONTINUOUS CURRENT [6] Apk 2.78 3.2 PEAKFORCE [7] N 200 84 PEAK CURRENT [6] Apk 8.79 10.1 BACK EMF CONSTANT V/ms/kmpm 1.8 - BACK EMF CONSTANT V/ms/kmpm 1.8 - MOTOR TYPE - AFMASLESS TORQUE MOTOR WITH PRE MOTOR TYPE - ALL SCREW 101 MAXMOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE MOTOR CONNECTION - WYE WYE THERMAL SENSOR - NONE NONE DOT		Nm/Arms	0.030	-
PHASE RESISTANCE (@25°C)[5] Unm 2.2 5.8 PHASE RESISTANCE (@130°C)[5] Ohm - 8.0 INDUCTANCE mH 1.1 1.3 CONTINUOUS FORCE [6] N 113 28.7 CONTINUOUS TORQUE [6] Nm 0.08 - CONTINUOUS CURRENT [6] Apk 2.78 3.2 PEAKTORQUE [7] N 200 84 PEAKTORQUE [7] Nm 0.26 - BACK EMF CONSTANT Vms/kpm 1.8 - BACK EMF CONSTANT Vms/kpm 1.8 - MOTOR NODEL - AITM-32A8-Y AHTM-32A8-Y MATMOTOR TYPE - BALL SCREW MOTOR WOTOR INFORMATION MASUNCTAGE (LINE TO LINE) [4] V 340 340 MAXOUTAGE (LINE TO LINE) [4] V 340 <td></td> <td>N/Apk</td> <td></td> <td>8.4</td>		N/Apk		8.4
PHASE RESISTANCE (@130°C)[5] Unm - 80 INDUCTANCE mH 1.1 1.3 CONTINUOUS FORCE [6] Nm 0.08 - CONTINUOUS CURRENT [6] Apk 2.78 3.2 PEAKFORCE [7] Nm 0.06 - PEAKCORENT [7] Apk 8.79 10.1 BACKEMF CONSTANT Vms/krpm 1.8 - BACKEMF CONSTANT Vms/krpm 1.8 - BACKEMF CONSTANT Vms/s - 8.4 TRPOD MOTOR INFORMATION FRAMELESS TORQUE MOTOR WITH PRE - MOTOR TYPE - ALTM-32A8-Y ALTM-32A8-Y MACONTAGE (LINE TO LINE) [4] V 340 340 MAXVOLTAGE (LINE TO LINE) [4] V 340 340 MAXVOLTAGE (LINE TO LINE) [4] V 340 340 MAXMOTOR TEMP *C 155 155 THERMAL SENSOR - NONE NONE ORDUC CONNECTION - WYE WYE	PHASE RESISTANCE (@25°C) [5]	Ohm	2.2	5.8
INJUUCI ANCE mH 1.1 1.3 26.7 CONTINUOUS FORCIE (6) Nm 0.08 - - CONTINUOUS CURRENT [6] Apk 2.78 3.2 - PEAKFORCE [7] Nm 0.06 - - PEAKFORCE [7] Nm 0.26 - - PEAKCORCE [7] Nm 0.26 - - BACK EMF CONSTANT Vms/kpm 1.8 - - BACK EMF CONSTANT Vms/kpm 1.8 - - MOTOR NFORMATION - ALTM-32A8-Y ALTM-32A8-Y ALTM-32A8-Y MOTOR TYPE - ALTM-32A8-Y ALTM-32A8-Y ALTM-32A8-Y MAGNETIC FUTCH (-N) deg 180 180 180 BALL SCREW PITCH mm 1 1 1 1 MAXONOTR TEMP °C 155 155 155 THERMAL SENSOR - NONE NONE NONE NOTOR CONSTANT Nm/Arms 0.030	PHASE RESISTANCE (@130°C) [5]	Ohm		8.0
CUN INDUCS FORCE [6] N 113 26.7 CONTINUOUS TORQUE [6] Nm 0.08 CONTINUOUS CURRENT [6] Apk 2.78 3.2 PEAK FORCE [7] N 200 84 PEAK TORQUE [7] Nm 0.26 PEAK CORDUE [7] Apk 8.79 10.1 BACK EMF CONSTANT V/ms/kpm 1.8 - BACK EMF CONSTANT V/m/s - 8.4 TRIPOD MOTOR INFORMATION - ALSCREW MOTOR WITH PRE MOTOR TYPE - ALTM-32A8-Y ALTM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAXMOTOR TEMP *C 1555 1555 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE ORAUE CONSTANT Nm/Ams 0.030 0.030 PHASE RESISTANCE (@25°C)[5] Ohm 2.2 2.2		mH	1.1	1.3
CONTINUOUS CURRENT [6] Nm 0.08 CONTINUOUS CURRENT [6] Apk 278 3.2 PEAK FORCE [7] N 200 84 PEAK CURRENT [7] Nm 0.26 PEAK CURRENT [7] Apk 8.79 10.1 BACK EMF CONSTANT Vms/krpm 1.8 BACK EMF CONSTANT Vms/krpm 1.8 - BACK EMF CONSTANT Vms/krpm 1.8 - MOTOR MODEL - ALTM-328-Y ALTM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAXVOLTAGE (LINE TO LINE) [4] V 340 340 MAXMOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 DIDUCTANCE mH 1.1 1.1 INDUCTANCE (6]	CONTINUOUS FORCE [6]	N	113	26.7
CONTINUOUS CURRENT [6] Apk 2.78 3.2 PEAK FORCE [7] Nm 200 84 PEAK TORQUE [7] Nm 0.26 - PEAK CORQUE [7] Nm 0.26 - BACK EMF CONSTANT Vims/krpm 1.8 - BACK EMF CONSTANT Vim/s - 8.4 TRIPOD MOTOR INFORMATION - 8.4 - MOTOR TYPE - BALL SCREW - MOTOR MODEL - AI-TM-32A8-Y AI-TM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAXVOLTAGE (LINE TO LINE) [4] V 340 340 MAXWOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 2.2	CONTINUOUS TORQUE [6]	Nm	0.08	-
PEAK FORCE [7] N 200 84 PEAK TORQUE [7] Nm 0.26 - PEAK CURRENT [7] Apk 8.79 10.1 BACK EMF CONSTANT Vrms/krpm 1.8 - BACK EMF CONSTANT Vrms/krpm 1.8 - BACK EMF CONSTANT Vrms/krpm 1.8 - MOTOR NODEL - ALTM-32A8Y ALTM-32A8 MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAXVOLTAGE (LINE TO LINE) [4] V 340 340 MAXMOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C)[5] Ohm 2.2 2.2 INDUCTANCE MH 1.1 1.1 CONTINUOUS CORRENT [6] Nm 0.08 0.08 PEAK CURENT [7]<	CONTINUOUS CURRENT [6]	Apk	2.78	3.2
PEAK TORQUE [7] Nm 0.26 PEAK CURRENT [7] Apk 8.79 10.1 BACK EMF CONSTANT Vims/krpm 1.8 BACK EMF CONSTANT Vims/krpm 8.4 MOTOR NODEL AI-TM-32A8-Y AI-TM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C)[5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 1.1 CONTINUOUS FORCE [6] Nm 0.030 0.030 <td>PEAK FORCE [7]</td> <td>N</td> <td>200</td> <td>84</td>	PEAK FORCE [7]	N	200	84
PEAK CURRENT [7] Apk 8.79 10.1 BACK EMF CONSTANT Vrms/krpm 1.8 BACK EMF CONSTANT Vrms/krpm 1.8 MOTOR INFORMATION FRAMELESS TORQUE MOTOR WITH PRE BALL SCREW 8.4 MOTOR MODEL AI-TM-32A8-Y AI-TM-32A8-Y AI-TM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 180 BALL SCREW PITCH mm 1 1 1 MAXVOLTAGE (LINE TO LINE) [4] V 340 340 340 MAX THERMAL SENSOR NONE NONE NONE MOTOR CONNECTION - WYE WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 11.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 <t< td=""><td>PEAKTORQUE [7]</td><td>Nm</td><td>0.26</td><td>-</td></t<>	PEAKTORQUE [7]	Nm	0.26	-
BACK EMF CONSTANT Vrms/krpm 1.8 BACK EMF CONSTANT V/m/s - 8.4 TRPOD MOTOR INFORMATION - 8.4 MOTOR TYPE - FRAMELESS TORQUE MOTOR WITH PRE BALL SCREW MOTOR MODEL - ALTM-32A8-Y ALTM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MOTOR RONNECTION - WYE WYE ORQUE CONSTANT Nm/Arms 0.030 0.030 CONTINUOUS FORCE [6] N 113 113 113 CONTINUOUS CORQUE [6] Nm	PEAK CURRENT [7]	Apk	8.79	10.1
BACK EMF CONSTANT V/m/s - 8.4 TRIPOD MOTOR INFORMATION FRAMELESS TORQUE MOTOR WITH PRE BALL SCREW FRAMELESS TORQUE MOTOR WITH PRE BALL SCREW MOTOR MODEL - AITM-32A8-Y AITM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE MOTOR CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS CORRENT [6] Arms 2.8 2.8 PEAK CIRCENT [7] Nm 0.26 0.26 PEAK CIRCENT [7] Nm 0.26 0.26 PEAK CIRCENT [7] Nm 0.26 0.26 PEAK CIRCENT [7] Nm 0.20 2	BACKEMFCONSTANT	Vrms/krpm	1.8	-
TRIPOD MOTOR INFORMATION FRAMELESS TORQUE MOTOR WITH PRE BALL SCREW MOTOR MODEL AI-TM-32A8-Y AI-TM-32A8-Y MAGRETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25° C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS FORCE [6] Nm 0.08 0.08 CONTINUOUS FORCE [7] Nm 2.8 2.8 PEAK TORQUE [7] Nm 0.26 0.26 PEAK TORQUE [7] Nm 0.26 0.26 PEAK TORQUE [7] Nm 0.26 0.26 MOTOR	BACKEMFCONSTANT	V/m/s		8.4
MOTOR TYPE FRAMELESS TORQUE MOTOR WITH PRE BALL SCREW MOTOR MODEL ALTM-32A8-Y ALTM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS CURRENT [6] Arms 2.8 2.8 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK CORCE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8	TRIPOD MOTOR INFORMATION			
MOTOR MODEL AI-TM-32A8-Y AI-TM-32A8-Y MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAXVOLTAGE (LINE TO LINE) [4] V 340 340 MAXWOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK TORQUE [7] Nm 0.26 0.26 PEAK TORQUE [7] Nm 0.26 0.26 PEAK FORCE [7] Nm 0.26 0.26 MOTOR TYPE - GEAR REDUCTION GEAR REDUCTION MOTOR	MOTOR TYPE		FRAMELESS TORQUE	MOTOR WITH PRECISION
MAGNETIC PITCH (N-N) deg 180 180 BALL SCREW PITCH mm 1 1 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAKFORCE [7] N 200 200 PEAKTORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION - Al-TM-44AE-Y Al-TM-44AE-Y MATAMOTOR TEMP °C 155 155 <	MOTOR MODEL		AI-TM-32A8-Y	AI-TM-32A8-Y
BALL SCREW PITCH mm 1 1 MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS FORCE [7] N 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK CORCE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION - GEAR REDUCTION MOTOR TYPE - AI-TM-44AE-Y AI-TM-44AE-Y MACMOTOR TEMP °C 155 155 MAX WOTOR TEMP	MAGNETIC PITCH (N-N)	dea	180	180
MAX VOLTAGE (LINE TO LINE) [4] V 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK FORCE [7] Nm 0.26 0.26 PEAK FORCE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACKEMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION - 4.1-TM-44AE-Y AL-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MCTOR TYPE - 1:100 1:100	BALL SCREW PITCH	mm	1	1
MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25° C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS TORQUE [6] Nm 0.08 0.08 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK CORCE [7] Nm 0.26 0.26 PEAK CORCE [7] Nm 0.26 0.26 PEAK CORSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION Al-TM-44AE-Y Al-TM-44AE-Y MOTOR TYPE Al-TM-44AE-Y Al-TM-44AE-Y MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE	MAX VOLTAGE (LINE TO LINE) [4]	V	340	340
THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE MOTOR CONNECTION - WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS TORQUE [6] Nm 0.08 0.08 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] Nm 0.26 0.26 PEAK CORSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION FRAMELESS TORQUE MOTOR W/MECH/ MOTOR MODEL AI-TM-44AE-Y AI-TM-44AE-Y MAS WOTOR TEMP deg 120 120 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX VOLTAGE CONSTANT NONE NONE MOTOR TEMP °C 155 155 THERMAL	MAX MOTOR TEMP	°C	155	155
MOTOR CONNECTION WYE WYE TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS TORQUE [6] Nm 0.08 0.08 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK TORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1.100 1.100 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE	THERMAL SENSOR		NONE	NONE
International International TORQUE CONSTANT Nm/Arms 0.030 0.030 PHASE RESISTANCE (@25°C) [5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS FORCE [6] Nm 0.08 0.08 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK TORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION - - AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MCCHARY MOTOR TEMP - 1:100 1:100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE INPUT TORQUE CONSTANT	MOTOR CONNECTION		WYF	WYF
PHASE RESISTANCE (@25°C)[5] Ohm 2.2 2.2 INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS FORCE [6] Nm 0.08 0.08 CONTINUOUS TORQUE [6] Nm 0.08 0.08 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK TORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION MOTOR TYPE - AI-TM-44AE-Y AI-TM-44AE-Y MACMOTOR TYPE - 1:100 1:100 MAX VOLTAGE (LINE TO LINE)[4] VDC 340 340 MAX WOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09		Nm/Arms	0.030	0.030
INDUCTANCE mH 1.1 1.1 CONTINUOUS FORCE [6] N 113 113 CONTINUOUS FORCE [6] Nm 0.08 0.08 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK FORCE [7] Nm 0.26 0.26 PEAK CORCE [7] Nm 0.26 0.26 PEAK CORSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION FRAMELESS TORQUE MOTOR W/ MECH/ GEAR REDUCTION	PHASE RESISTANCE (@25° C) [5]	Ohm	22	22
Init Init <th< td=""><td></td><td>mH</td><td>11</td><td>11</td></th<>		mH	11	11
CONTINUOUS TORQUE [6] Nm 110 110 CONTINUOUS TORQUE [6] Nm 0.08 0.08 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] Nm 0.26 0.20 PEAK TORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION - AI-TM-44AE-Y AI-TM-44AE-Y MOTOR TYPE AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1.100 1.100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THEMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE MPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25° C) [5] Ohm 4.5<		N	113	113
CONTINUOUS CURRENT [6] Arms 0.00 0.00 CONTINUOUS CURRENT [6] Arms 2.8 2.8 PEAK FORCE [7] N 200 200 PEAK TORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION FRAMELESS TORQUE MOTOR W/ MECH/ GEAR REDUCTION MOTOR MODEL AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1:100 1:100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2		Nm	0.08	0.08
Continuous contrention 2.0 2.0 PEAK FORCE [7] N 200 200 PEAK TORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION FRAMELESS TORQUE MOTOR W/ MECH/ GEAR REDUCTION - MOTOR MODEL AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1:100 1:100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 <td></td> <td>Arme</td> <td>2.8</td> <td>2.8</td>		Arme	2.8	2.8
PEAK TORQUE [7] N 200 200 PEAK TORQUE [7] Nm 0.26 0.26 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION FRAMELESS TORQUE MOTOR W/ MECH, GEAR REDUCTION FRAMELESS TORQUE MOTOR W/ MECH, GEAR REDUCTION MOTOR MODEL AI-TM-44AE-Y AI-TM-44AE-Y MAS VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS CURRENT [6] Arms 2.31 2.31 CONTINUOUS		N	2.0	2.0
PEAK CONRENT [7] Arms 0.20 0.20 PEAK CURRENT [7] Arms 8.8 8.8 BACK EMF CONSTANT Vrms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION - FRAMELESS TORQUE MOTOR W/ MECH, GEAR REDUCTION MOTOR MODEL AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1:100 1:100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE MOTOR CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm <t< td=""><td></td><td>Nim</td><td>0.26</td><td>0.26</td></t<>		Nim	0.26	0.26
Number Constant Control 0.0 0.0 BACK EMF CONSTANT Vms/krpm 1.8 1.8 YAW (ROTARY) MOTOR INFORMATION FRAMELESS TORQUE MOTOR W/ MECH/ GEAR REDUCTION MOTOR MODEL AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 MECHANICAL GEAR RATIO 1.100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 MAX MOTOR TEMP °C 155 THERMAL SENSOR NONE MOTOR CONNECTION WYE MOTOR CONSTANT Nm/Arms 0.09 PHASE RESISTANCE (@25°C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS CURRENT [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31	PEAK CURRENT [7]	Arms	8.20	8.8
YAW (ROTARY) MOTOR INFORMATION I.0 I.0 MOTOR TYPE - FRAMELESS TORQUE MOTOR W/ MECH, GEAR REDUCTION MOTOR MODEL - AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO - 1:100 1:100 MAX VOLTAGE (LINE TO LINE)[4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C)[5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS CURRENT [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0	BACKEMECONSTANT	Vrms/krnm	1.8	1.8
TATE FRAMELESS TORQUE MOTOR W/ MECH. MOTOR TYPE - FRAMELESS TORQUE MOTOR W/ MECH. MOTOR MODEL - AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO - 1:100 1:100 MAX VOLTAGE (LINE TO LINE)[4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR - NONE NONE MOTOR CONNECTION - WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C)[5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS CURRENT [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0		VIIII3/Ripiii	1.0	1.0
MOTOR TYPE GEAR REDUCTION MOTOR MODEL AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1:100 1:100 MAX VOLTAGE (LINE TO LINE)[4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25° C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0			ERAMELESS TOPOLIE	
MOTOR MODEL AI-TM-44AE-Y AI-TM-44AE-Y MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1:100 1:100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25° C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0			GEAR	
MAGNETIC PITCH (N-N) deg 120 120 MAGNETIC PITCH (N-N) deg 120 120 MECHANICAL GEAR RATIO 1:100 1:100 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS CURRENT [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAKOUTPUT TORQUE [7] Nm 19.0 19.0				
MCCHANICAL GEAR RATIO 1:100 1:20 MAX VOLTAGE (LINE TO LINE) [4] VDC 340 340 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS CURRENT [6] Nm 0.21 0.21 PEAKOUTPUT TORQUE [7] Nm 19.0 19.0		deg	120	120
MAX VOLTAGE (LINE TO LINE)[4] VDC 340 340 MAX VOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25°C)[5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAKOUTPUT TORQUE [7] Nm 19.0 19.0		ucy	1:100	1.100
MAX MOTOR TEMP °C 155 155 MAX MOTOR TEMP °C 155 155 THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25° C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS SUPPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0	MAX VOLTAGE (LINE TO LINE) [4]	VDC	340	340
THERMAL SENSOR NONE NONE MOTOR CONNECTION WYE WYE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25° C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS OUTPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAKOUTPUT TORQUE [7] Nm 19.0 19.0	MAX MOTOR TEMP	001 °C	155	155
INDUCTION - WYE INONE INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25° C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS OUTPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAKOUTPUT TORQUE [7] Nm 19.0 19.0	THERMAL SENSOR		NONE	NONE
INPUT TORQUE CONSTANT Nm/Arms 0.09 0.09 PHASE RESISTANCE (@25° C) [5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS SUPPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAKOUTPUT TORQUE [7] Nm 19.0 19.0	MOTOR CONNECTION		WVF	WVF
PHASE RESISTANCE (@25°C)[5] Ohm 4.5 4.5 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS SUPPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAKOUTPUT TORQUE [7] Nm 19.0 19.0		Nm/Arme	0.00	0.00
INDUCTANCE mH 3.2 3.2 INDUCTANCE mH 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS INPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0		Ohm	4.5	4.5
Inff 3.2 3.2 CONTINUOUS OUTPUT TORQUE [6] Nm 5.40 5.40 CONTINUOUS INPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0		m ^L	3.0	
CONTINUOUS INPUT TORQUE [6] Nm 0.21 0.21 CONTINUOUS CURRENT [6] Arms 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0		Nm	5.40	5.40
CONTINUOUS CURRENT [6] Ams 2.31 2.31 PEAK OUTPUT TORQUE [7] Nm 19.0 19.0		Nim	0.40	0.21
PEAK OUTPUT TORQUE [7] Nm 19.0 19.0			0.21	0.21
FEAROUTFUTTURQUE[/] NMT 19.0 19.0		AIIIIS	2.31	2.31
		inm Nim	19.0	19.0
PEAK INPUT TORQUE [7] NM 0.66 0.66		NM	0.66	0.66
PEAR CURRENT [/] Ams 7.3 7.3 DACKEME CONSTANT 1/mm 5.5 5.5 5.5		Arms	7.3	7.3
BACK EIVIF CONSTANT VITTS/KIPM 5.5 5.5	BACKEMF CONSTANT	vrms/krpm	5.5	5.5

Α

R

-₽

proof for all options/specs per quote.

2. Flatness specifications dependent on system base. Contact ALIO for more information.

3. Stage limitation at no load. Does not account for drive or resolution limitations.

4. Back EMF plus IR drop must not exceed maximum line to line bus voltage.

5. Resistance values do not include cable resistance. Cable resistance adds approximately 0.2 ohm/m. 6. Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5mm x motor length).

7. Maximum on time at peak operating limits is 10 seconds.

8. All electrical specifications may vary by 12% from listed values.

9. Additional motor and travel options are available for each stage for optimized performance as necessary per customer requirements.

10. Angular travel is specified when the Z axis is at mid-stroke and all other angles are at zero degrees.

Translation from this specified (mid-stroke) position reduces angular travel.

11. Three dimensional accuracy is affected by all error sources of all axes as well as the infinite possible

process points or tool center points. Thus a single specification is not applicable. ALIO specifies three dimensional accuracy specifications on a case by case basis.

12. Payload Cg ideally should be in line with the yaw rotation axis (centered on mounting surface). Offset payload must be within spec



	DRAWN			
	NBROWN	2018-04-05		
	CHECKED			
			ΔI.	$-HH_{X}$
	Tolerances: Surface Roughness:			
	$x.x \pm 0.5 \text{ mm}$		TR	RAVEL
	$x.xx \pm 0.13 \text{ mm}$,
	ANGLES $\pm 0.5^{\circ}$	с.	SIZE	
	MATERIAL			
			В	
	FINISH A SEE MOTES			
6	<u>ch vvebsite: Aav</u>	wauni	OFALL	ech.com