

TECH NOTE:

GTX Quick Reference Guide

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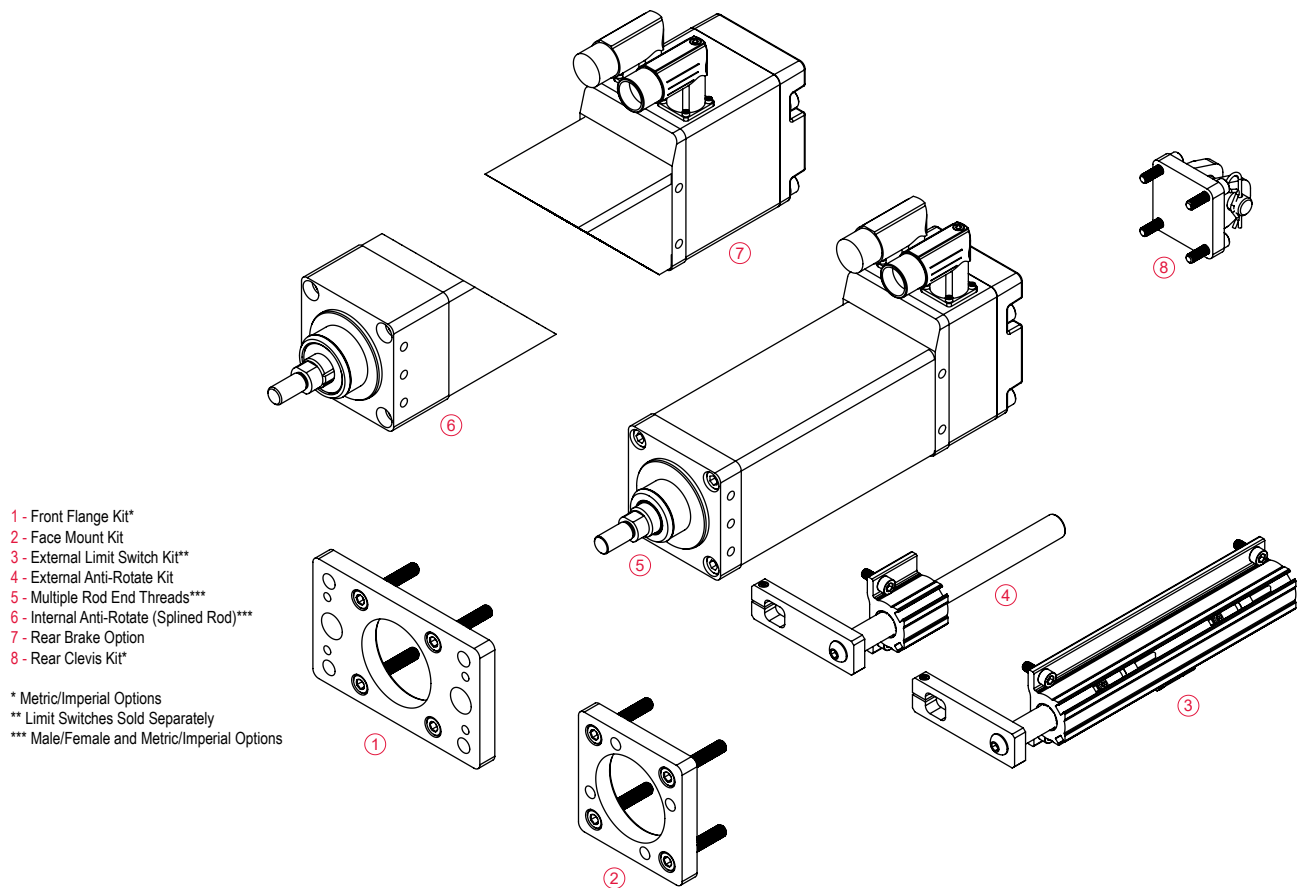
***CURTISS -
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EXLAR[®]

Exlar[®] actuators are a brand of Curtiss-Wright Actuation Division

Product Summary

The GTX product is an integrated servo motor and actuator solution that is offered in three different frames sizes, 60mm, 80mm and 100mm. The modular design of the GTX series enables a flexible set of configurations yet supports a fulfillment model with competitive deliveries optimized to your application. Compatibility with market leading 3rd party amplifier manufacturers allows users to specify their own control architecture. The product is engineered to support bolt-on mounting accessories that can be field installed and replaced. The motor housing is sealed and IP66S rated for reliable operation in environments where contaminants are present, ensuring a compact robust solution to support a variety of applications.



- 1 - Front Flange Kit*
 - 2 - Face Mount Kit
 - 3 - External Limit Switch Kit**
 - 4 - External Anti-Rotate Kit
 - 5 - Multiple Rod End Threads***
 - 6 - Internal Anti-Rotate (Splined Rod)***
 - 7 - Rear Brake Option
 - 8 - Rear Clevis Kit*
- * Metric/Imperial Options
 ** Limit Switches Sold Separately
 *** Male/Female and Metric/Imperial Options

GTX Mechanical and Electrical Specifications

Mechanical Specifications		
Model	Continuous Force N (lbf)	Max Speed mm/sec (in/sec)
GTX060	AC -2,688 (600)	AC -1,270 (50)
	DC - 2,688 (600)	DC - 847 (33.3)
GTX080	AC -8,365 (1,881)	AC -1,270 (50)
	DC - 7,101 (1,596)	DC - 508 (20)
GTX100	AC -15,392 (3,460)	AC -953 (37.5)

GTX060 Electrical Specifications							
Stator Type		4 (AC)			D (DC)		
Input Voltage		230/460 Vrms			24/48 Vdc		
Rated RPM		5000/7500			2400/5000		
Actuator Lead	mm	2.54	5.08	10.16	2.54	5.08	10.16
	in	0.1	0.2	0.4	0.1	0.2	0.4
*See Note	Limit of Torque	74.6%	100.0%	100.0%	88.1%	100.0%	100.0%
Continuous Motor Torque @Stall	Nm	1.35	1.81	1.81	1.35	1.53	1.53
	lbf-in	11.9	16.0	16.0	11.9	13.6	13.6
Torque Constant (Kt) (+/- 10% @ 25°C)							
	Nm/A	0.50	0.50	0.50	0.08	0.08	0.08
	lbf-in/A	4.5	4.5	4.5	0.7	0.7	0.7
Continuous Current Rating	Arms	3.0	4.0	4.0	18.3	20.8	20.8
Peak Current Rating	Arms	6.0	8.0	8.0	36.7	41.7	41.7
Voltage Constant (Ke) (+/- 10% @ 25°C)							
	Vrms/ Krpm	30.5	30.5	30.5	5.0	5.0	5.0
	Vpk/ Krpm	43.1	43.1	43.1	7.0	7.0	7.0

* Note: Torque limited for fine screw lead

GTX080 Electrical Specifications							
Stator Type		4 (AC)			D (DC)		
Input Voltage		230/460 Vrms			24/48 Vdc		
Rated RPM		3000/6000			1000/2400		
Actuator Lead	mm	2.54	5.08	12.70	2.54	5.08	12.70
	in	0.1	0.2	0.5	0.1	0.2	0.5
*See Note	Limit of Torque	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Continuous Motor Torque @Stall	Nm	4.51	4.51	4.51	3.83	3.83	3.83
	lbf-in	39.9	39.9	39.9	33.9	33.9	33.9
Torque Constant (Kt) (+/- 10% @ 25°C)							
	Nm/A	1.02	1.02	1.02	0.18	0.18	0.18
	lbf-in/A	9.0	9.0	9.0	1.6	1.6	1.6
Continuous Current Rating	Arms	4.9	4.9	4.9	24.2	24.2	24.2
Peak Current Rating	Arms	9.9	9.9	9.9	48.5	48.5	48.5
Voltage Constant (Ke) (+/- 10% @ 25°C)	Vrms/Krpm	61.6	61.6	61.6	10.7	10.7	10.7
	Vpk/Krpm	87.1	87.1	87.1	15.1	15.1	15.1

GTX100 Electrical Specifications				
Stator Type		4 (AC)		
Input Voltage		230/460 Vrms		
Rated RPM		3000/4500		
Actuator Lead	mm	2.54	5.08	12.70
	in	0.1	0.2	0.5
*See Note	Limit of Torque	72.7%	100.0%	100.0%
Continuous Motor Torque @Stall	Nm	8.89	12.23	12.23
	lbf-in	78.7	108.2	108.2
Torque Constant (Kt) (+/- 10% @ 25°C)	Nm/A	1.11	1.11	1.11
	lbf-in/A	9.8	9.8	9.8
Continuous Current Rating	Arms	9.0	12.3	12.3
Peak Current Rating	Arms	17.9	24.7	24.7
Voltage Constant (Ke) (+/- 10% @ 25°C)	Vrms/Krpm	67.0	67.0	67.0
	Vpk/Krpm	94.8	94.8	94.8

* Notes: Torque limited for fine screw lead

Stator is capable of operating at 6000 RPM at 460 Vrms, operating speed is to be limited at 4500 RPM

Product Code

(GTX)AAA-BBB-CC-D-E-FF-GGGG-H-M-N

(AAA) Frame Size		(BBB) Stroke Options				
Size Options	Description	Stroke Options	GTX060	GTX080	GTX100	Over Travel
060	60 mm (2.36 in)	080 mm (3 in)	✓			10 mm (90 mm)
080	80 mm (3.15 in)	100 mm (4 in)		✓		10 mm (110 mm)
100	100 mm (3.94 in)	150 mm (6 in)	✓	✓	✓	10 mm (160 mm)
		300 mm (12 in)	✓	✓	✓	10 mm (310 mm)
		450 mm (18 in)		✓		10 mm (460 mm)
Configured Stroke Options Available in 25mm Increments						
Over travel is actual product stroke						

(CC) Screw Lead				
Lead Options	GTX060	GTX080	GTX100	Revolution Travel Per Screw
01	✓	✓	✓	0.1 in (2.54 mm)
02	✓	✓	✓	0.2 in (5.08 mm)
04	✓			0.4 in (10.2 mm)
05		✓	✓	0.5 in (12.7 mm)

(D) Stator				
Winding Options	GTX060	GTX080	GTX100	Max Voltage
4	✓	✓	✓	460 VAC
D	✓	✓		48 VDC

(E) GTX060 Rod Thread/Type	
Thread	Description
A	Male, M8x1.25
B	Female, M8x1.25
C	Male, M8x1.25, Splined
D	Female, M8x1.25, Splined
F	Female, 5/16-24
G	Male, 5/16-24, Splined
H	Female, 5/16-24, Splined
L	Female, M8x1.25, 17-4 SS
M	Male, 5/16-24
R	Male, M8x1.25, 17-4 SS
V	Female, 5/16-24, 17-4 SS
W	Male, 5/16-24, 17-4 SS

(E) GTX080 Rod Thread/Type	
Thread	Description
A	Male, M12x1.25
B	Female, M12x1.25
C	Male, M12x1.25, Splined
D	Female, M12x1.25, Splined
F	Female, 1/2-20
G	Male, 1/2-20, Splined
H	Female, 1/2-20, Splined
L	Female, M12x1.25, 17-4 SS
M	Male, 1/2-20
R	Male, M12x1.25, 17-4 SS
V	Female, 1/2-20, 17-4 SS
W	Male, 1/2-20, 17-4 SS

(E) GTX100 Rod Thread/Type	
Thread	Description
A	Male, M16x1.5
B	Female, M16x1.5
C	Male, M16x1.5, Splined
D	Female, M16x1.5, Splined
F	Female, 5/8-18
G	Male, 5/8-18, Splined
H	Female, 5/8-18, Splined
L	Female, M16x1.5, 17-4 SS
M	Male, 5/8-18
R	Male, M16x1.5, 17-4 SS
V	Female, 5/8-18, 17-4 SS
W	Male, 5/8-18, 17-4 SS

(GGGG) Feedback Configuration							
Drive Manufacturer	(FF)Wiring & Alignment Code	Resolver	Incremental Encoder	SICK Hiperface Absolute Encoder	SICK Hiperface DSL Absolute Encoder	Heidenhain EnDat 2.2 Absolute Encoder	Heidenhain DRIVE-CliQ Absolute Encoder
AMK	AK	R1A1				H1A1	
B&R Automation	BR	R1A1				H1A2	
Baldor	BD	R1A1				H1A1	
Baumuller	BM	R1A1		S1A1		H1A2	
Beckhoff Automation	BE				S4C0*	H1A2, H3C2*	
Control Techniques / Nidec	CT	R2B1	E1B2	S1B1		H1B2	
Elau / Schneider Electric	EU			S1A1			
Elmo Motion Control	EL	R1B1	E1B2			H1B2	
Exlar	EX	R1A1	E1A2	S1A2		H1A2	
Infranor	IF	R1B2		S1B2			
Bosch-Rexroth	IN			S2D3		H1D3	
Kollmorgan	KM	R2A1	E1A2			H1A2	
LTI	LS	R2A1		S1A2			
Lenze	LZ	R1B1		S1B1			
Parker	PC	R1B1	E1B2			H1B2	
Rockwell Automation	RA		E1C2	S1C2	S3C0		
Siemens	SM	R1B1				H1B2	H2B5*
Stober Drives	SB	R2A1				H1A1	

(H) Internal Holding Brake				(M) Mounting	
Option	060	080	100	Options	Description
N	No Brake	No Brake	No Brake	N	None
B	Brake	Brake	Brake	1	Front Flange, Metric (ISO MF1)
(N) Additional Options				3	Tapped Face, Metric (ISO MX3)
Options	Description			5	Rear Clevis, Metric (ISO MP2)
A	Anti-Rotate Assembly			F	Front Flange, Imperial
L	Limit Switch Housing/Anti-Rotate Kit			c	Rear Clevis, Imperial

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Exlar® is a brand of Curtiss-Wright