

Data
Publication

Kollmorgen GOLDLINE™ XT Brushless Series Motors *30 Frame Size*



The new, performance driven Kollmorgen **GOLDLINE XT** 30x frame size servomotor continues the tradition of high performance motors from Kollmorgen. The 30x design employs Kollmorgen's patented interior magnet design which provides very low cogging and excellent torque/inertia for both slow speed, smooth applications and those requiring high dynamic response.

The 30X motor frame provides a wide range of standard options including:

- IP 65 & 67 sealing
- 4 stack lengths
- Integral failsafe electromagnetic brake
- NEMA 34 and 100 mounting
- Swivel connectors rotate up to 256° for tight cable situations
- 2048 PPR encoder or resolver feedback
- UL and CE approved

The Kollmorgen **GOLDLINE XT** 30x is fully compatible with the Kollmorgen **SERVOSTAR®** CD digital amplifier for both 115 V and 230 VAC operation.

KOLLMORGEN

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Toll Free Phone (877) SERV098

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www.electromate.com

sales@electromate.com

Kollmorgen GOLDLINE XT

30x PERFORMANCE DATA

Parameters	Symbols	Units	MT302A	MT302B	MT304A	MT304B
Horsepower	HP Rated	HP	0.83	1.02	1.00	1.85
Kilowatts	kW Rated	kW	0.62	0.76	0.75	1.38
Speed at Rated Power	N Rated	RPM	4500	6000	3000	6000
Max Operating Speed	N Max	RPM	4500	6000	3000	6000
Continuous Torque (Stall) at 40°C	Tc	lb-ft	1.00	1.00	1.95	1.90
		N-m	1.36	1.36	2.64	2.58
Continuous Torque (Stall) at 25°C	Tc	lb-ft	1.06	1.05	2.07	2.01
		N-m	1.44	1.42	2.80	2.73
Continuous Line Current	Ic	Amps RMS	2.57	4.67	2.72	5.53
Peak Torque	Tp	lb-ft	2.38	2.38	5.46	5.46
		N-m	3.23	3.22	7.40	7.41
Peak Line Current	Ip	Amps RMS	9.0	16.5	10.0	20.9
Max Theoretical Acceleration	Z	rad / sec ²	69,364	69,346	91,544	91,676
Torque Sensitivity (Stall) ±10%	Kt	lb-ft / Amp RMS	0.398	0.217	0.727	0.349
		N-m / Amp RMS	0.540	0.294	0.986	0.473
Back EMF (Line-to-Line) ±10%	Kb	VRMS / kRPM	32.6	17.8	59.6	28.6
Max Line-to-Line Volts	VMax	Volts RMS	250	250	250	250
DC Res at 25°C (Line-to-Line) ±10%	Rm	Ohms	7.77	2.24	7.93	1.79
Inductance (Line-to-Line) ±30%	Lm	mh	31	10	51	12
Rotor Inertia	Jm	lb-ft-sec ²	0.0000343	0.0000343	0.0000596	0.0000596
		kg-m ²	0.0000465	0.0000465	0.0000808	0.0000808
Weight (without brake)	Wt	lb	5.6	5.6	7.3	7.3
		kg	2.5	2.5	3.3	3.3
Weight (with brake)	Wt	lb	8.0	8.0	9.7	9.7
		kg	3.6	3.6	4.3	4.3
Static Friction	Tf	lb-ft	0.022	0.022	0.026	0.026
		N-m	0.030	0.030	0.035	0.035
Thermal Time Constant	TCT	Minutes	22	22	25	25
Viscous Damping Z Source	Fi	lb-ft / kRPM	0.0057	0.0057	0.0083	0.0083
		N-m / kRPM	0.0078	0.0078	0.0112	0.0112
Motor Constant at 25°C	Km	lb-ft / √Watts	0.124	0.126	0.224	0.226
		N-m / √Watts	0.168	0.171	0.304	0.306
Thermal Resistance at Stall	Rth	°C / Watt	0.93	0.93	0.81	0.87
Number of Poles			8	8	8	8

Notes:

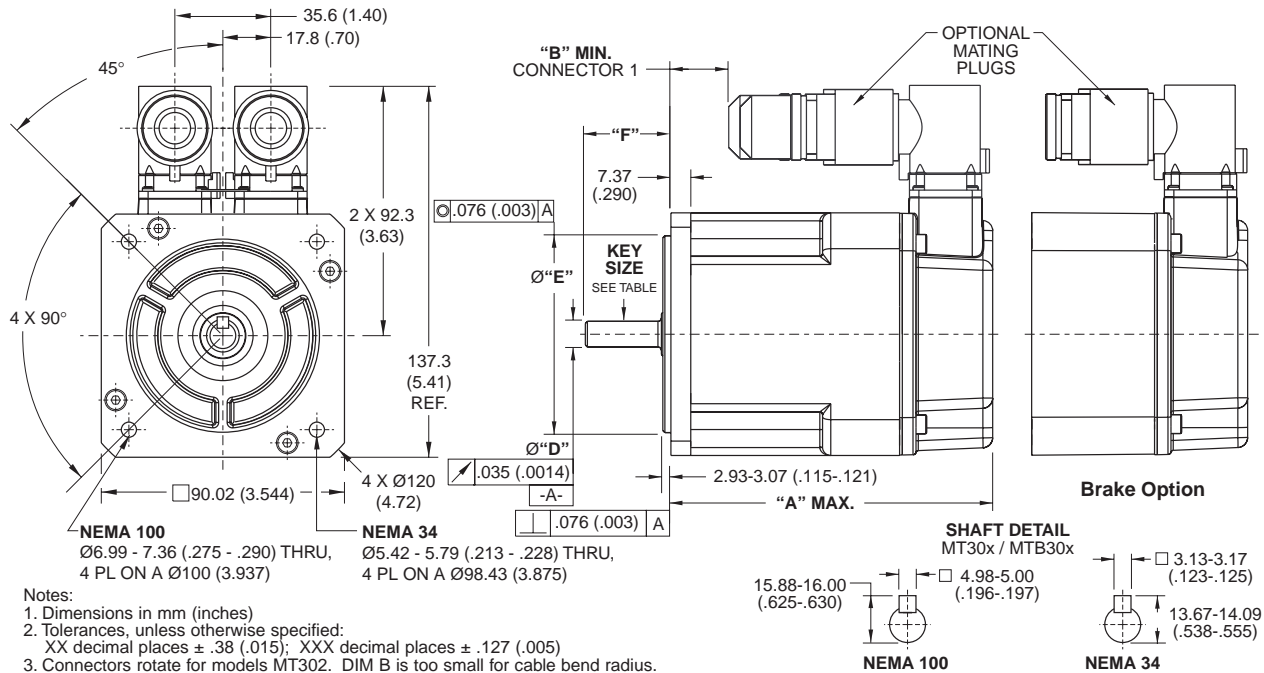
1. Please refer to the Kollmorgen SERVOSTAR™ CD Series SYSTEMS TECHNICAL PUBLICATION for Kollmorgen GOLDLINE™ XT Performance Curves.
2. For models with shaft seals, derate torque at all speeds by 0.059 lb-ft (0.08 N-m)
3. Continuous duty operation is based on using 8" x 12" x 3/8" aluminum plate.

Kollmorgen GOLDLINE XT

30x PERFORMANCE DATA

MT306A	MT306B	MT308A	MT308B	Units	Symbols	Parameters
1.15	2.08	0.95	1.81	HP	HP Rated	Horsepower
0.86	1.55	0.71	1.35	kW	kW Rated	Kilowatts
2500	4600	1500	3000	RPM	N Rated	Speed at Rated Power
2500	4600	1500	3000	RPM	N Max	Max Operating Speed
2.61	2.58	3.72	3.72	lb-ft	Tc	Continuous Torque (Stall)
3.54	3.50	5.04	5.04	N-m		at 40°C
2.77	2.73	3.94	3.94	lb-ft	Tc	Continuous Torque (Stall)
3.75	3.71	5.34	5.34	N-m		at 25°C
2.80	5.52	2.66	5.32	Amps RMS	Ic	Continuous Line Current
8.47	8.50	14.13	14.10	lb-ft	Tp	Peak Torque
11.48	11.52	19.16	19.12	N-m		
11.1	22.2	12.2	24.5	Amps RMS	Ip	Peak Line Current
103,377	103,777	109,521	109,334	rad / sec ²	Z	Max Theoretical Acceleration
0.945	0.474	1.429	0.713	lb-ft / Amp RMS	Kt	Torque Sensitivity (Stall) ±10%
1.281	0.643	1.938	0.967	N-m / Amp RMS		
77.5	38.9	117.2	58.5	VRMS / kRPM	Kb	Back EMF (Line-to-Line) ±10%
250	250	250	250	Volts RMS	VMax	Max Line-to-Line Volts
7.75	1.94	8.45	2.11	Ohms	Rm	DC Res at 25°C (Line-to-Line) ±30%
56	14.5	79	19	mh	Lm	Inductance (line-to-line) ±30%
0.0000819	0.0000819	0.000129	0.000129	lb-ft-sec ²	Jm	Rotor Inertia
0.0001110	0.0001110	0.0001749	0.0001749	kg-m ²		
8.4	8.4	11.3	11.3	lb	Wt	Weight (without brake)
3.8	3.8	5.1	5.1	kg		
10.8	10.8	13.7	13.7	lb	Wt	Weight (with brake)
4.8	4.8	6.1	6.1	kg		
0.038	0.038	0.0781	0.0781	lb-ft	Tf	Static Friction
0.052	0.052	0.106	0.106	N-m		
31	31	33	33	Minutes	TCT	Thermal Time Constant
0.017	0.017	0.018	0.018	lb-ft / kRPM	Fi	Viscous Damping Z Source
0.023	0.023	0.025	0.025	N-m / kRPM		
0.295	0.296	0.427	0.427	lb-ft / √Watts	Km	Motor Constant at 25°C
0.400	0.401	0.579	0.579	N-m / √Watts		
0.78	0.81	0.80	0.80	°C / Watt	Rth	Thermal Resistance at Stall
8	8	8	8			Number of Poles

MT(x)30x Outline Drawing



- Notes:
1. Dimensions in mm (inches)
 2. Tolerances, unless otherwise specified:
XX decimal places ± .38 (.015); XXX decimal places ± .127 (.005)
 3. Connectors rotate for models MT302. DIM B is too small for cable bend radius. Rotate connector a minimum of 35°

Model	"A" MAX.		"B" MIN.		"D"		"E"		"F" ±.76 (+.030)		Key Length	
	with brake	without brake	with brake	without brake	NEMA 34	NEMA 100	NEMA 34	NEMA 100	NEMA 34	NEMA 100	NEMA 34	NEMA 100
MT(B)302	165.6 (6.520)	120.1 (4.730)	65.14 (2.565)	19.93 (.785)	9.512-9.525 (.3745-.3750)	14.01	73.05	80.03			no	20 (.79)
MT(B)304	183.1 (7.210)	137.7 (5.420)	82.67 (3.255)	37.46 (1.475)		13.99	73.00	79.99	31.75	30	keyway	20 (.79)
MT(B)306	198.6 (7.820)	153.2 (6.030)	98.16 (3.865)	52.95 (2.085)	12.69-12.70	.5515	(2.876)	(3.151)	(1.250)	(1.181)	19 (.75)	20 (.79)
MT(B)308	231.7 (9.120)	186.2 (7.330)	131.2 (5.165)	85.97 (3.385)	(.4995-.5000)	(.5511)	(2.874)	(3.149)			19 (.75)	20 (.79)

Connections:

Motor Receptacle:

- Pin 3 - Phase A (brown)
- Pin 4 - Phase B (red)
- Pin 1 - Phase C (white)
- Pin 2 - Ground (green/yellow)
- Pin A - (Optional) Brake (+) (blue)
- Pin B - (Optional) Brake (-) (blue)

Encoder Receptacle:

- Pin 1 - A (blue)
- Pin 2 - \bar{A} (blue/black)
- Pin 3 - B (green)
- Pin 4 - \bar{B} (green/black)
- Pin 5 - Z (violet)
- Pin 6 - \bar{Z} (violet/black)
- Pin 17 - Hab=S1 (brown)
- Pin 16 - Hbc=S2 (gray)
- Pin 15 - Hca=S3 (white)
- Pin 10 - +5Vdc (red)
- Pin 7 - Common (black)
- Pin 8 - Thermostat (yellow)
- Pin 9 - Thermostat (yellow)

Mating Connectors: (Note: All pins are crimp style)

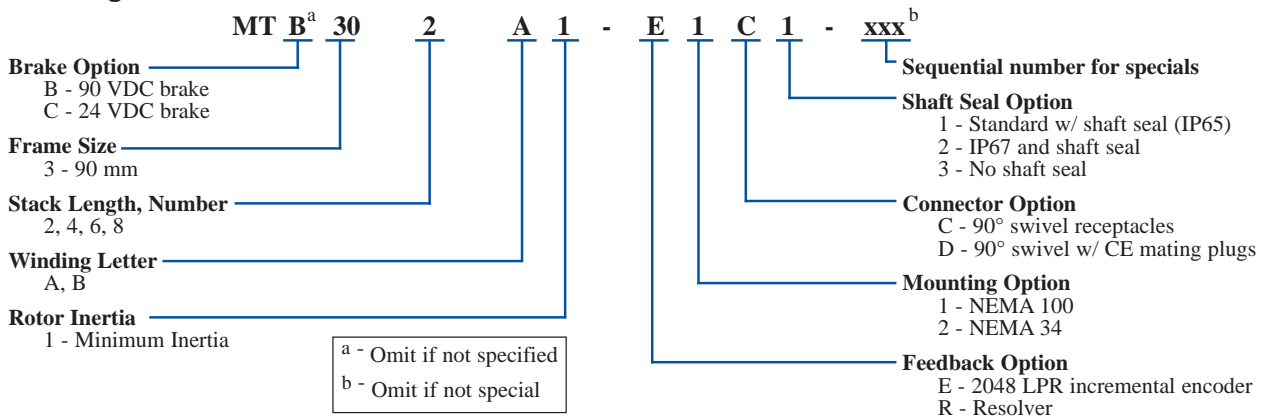
Power Connector

- Vendor: Interconnectron
- Connector Assembly: LPRA08BNNNN170
- Power Pin: 020.105.1020
- Brake Pin: 020.232.2000

Encoder Feedback Connector

- Vendor: Coninvers
- Connector Assembly: UC17S1N8A80DU
- Pins (Encoder Power): RC-1K2000
- Pins (Data): RC-12S2000

Ordering Information



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