

# 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**

# 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 <sup>2</sup>	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 <sup>2</sup>	0.0000343	0.0000343	0.0000596	0.0000596
		kg-m <sup>2</sup>	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:

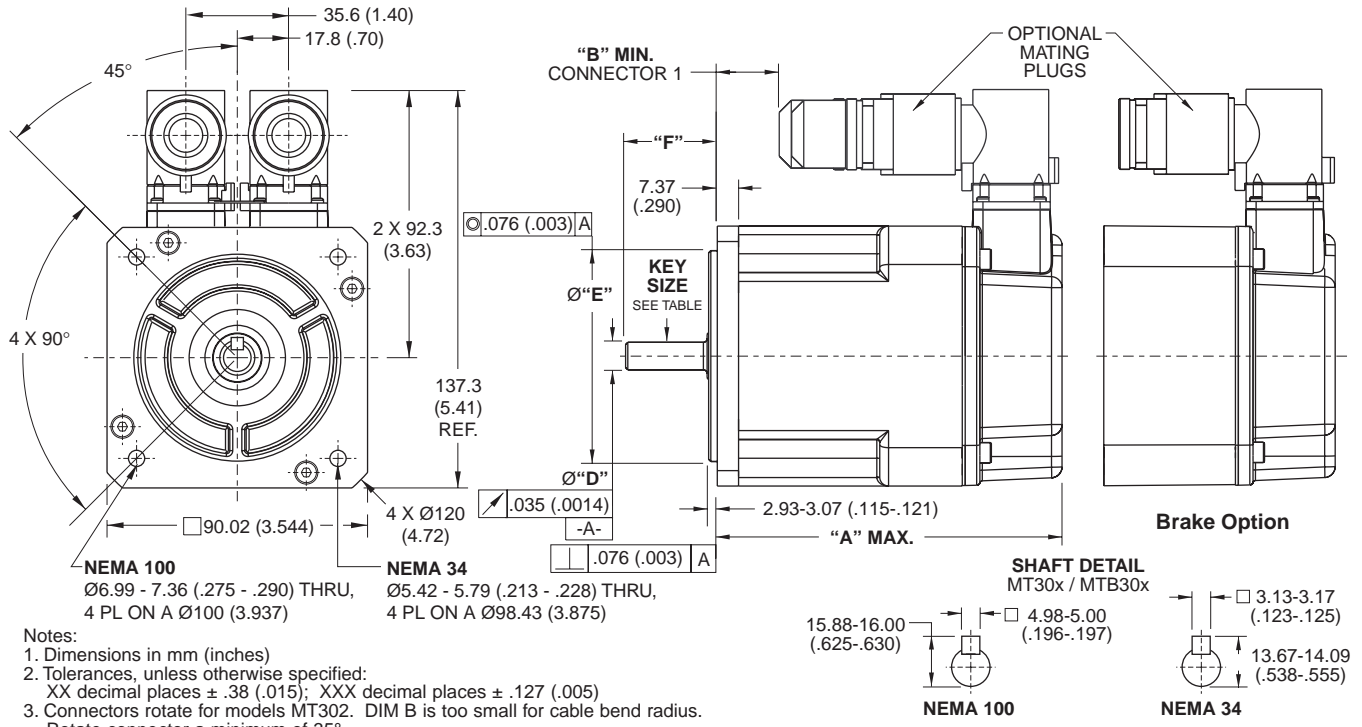
1. Please refer to the Kollmorgen SERVOSTAR™ CD Series SYSTEMS TECHNICAL PUBLICATION for Kollmorgen GOLDLINE™ XT Performance Curves.
2. For models with shaft seals, derate torque at all speeds by 0.059 lb-ft (0.08 N-m)
3. Continuous duty operation is based on using 8"x 12"x 3/8" aluminum plate.

# Kollmorgen GOLDLINE XT

## 30x PERFORMANCE DATA

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

# MT(x)30x Outline Drawing



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	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)	(.3745-.3750)	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)	(.2876)	(.3151)	(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)	(.2874)	(.3149)			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)

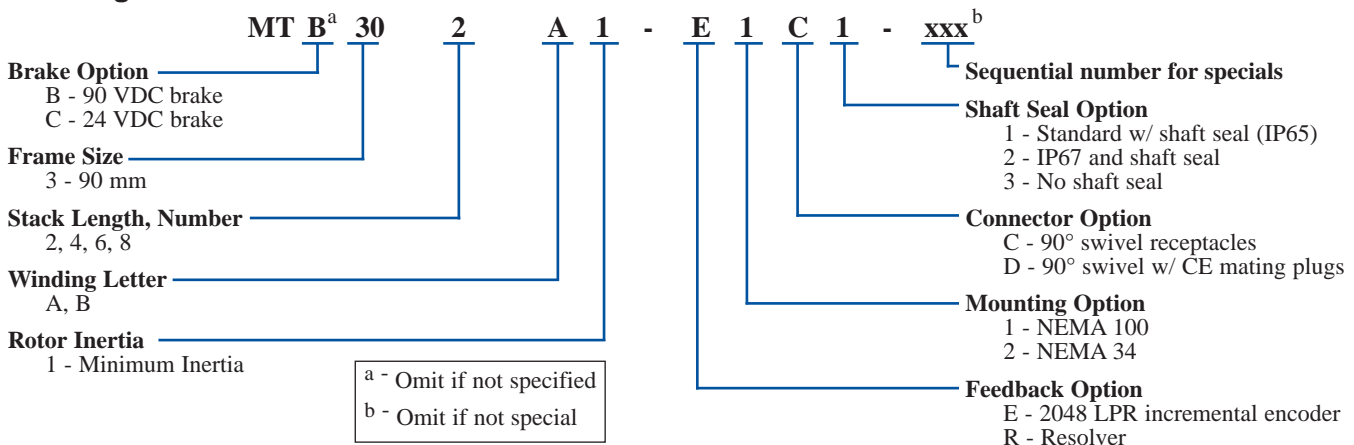
### Power Connector

- 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



Kollmorgen enjoys a reputation of excellence based on constant endeavors to update products. Information in this brochure is subject to change.

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