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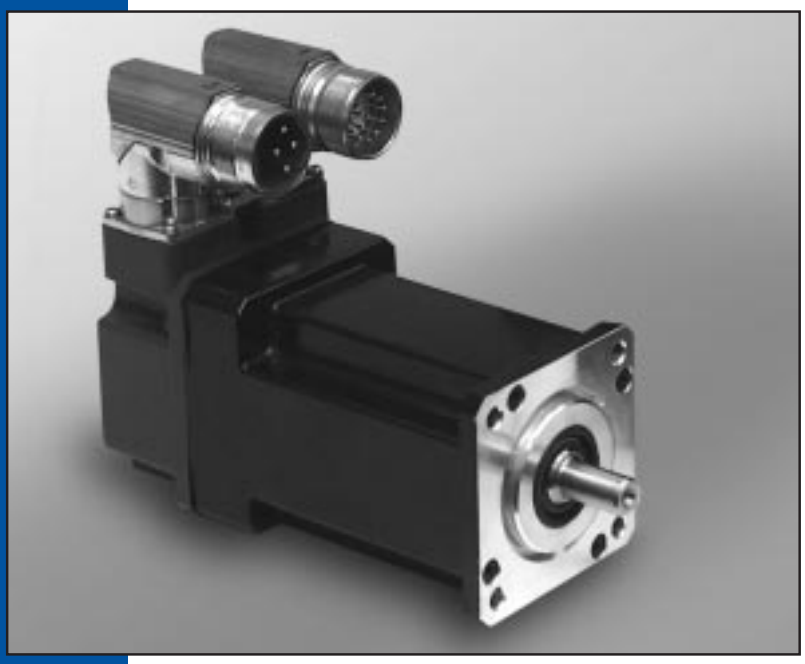
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Find the *Kollmorgen MT1504A1-E2C1* at our website: ***Click HERE***

Data Publication

Kollmorgen GOLDLINE® XT Brushless Series Motors

150 Frame Size



The new, value driven Kollmorgen **GOLD**LINE XT 150 series servomotors provide high performance, cost-effective solutions in a compact, rugged NEMA 23 package.

The XT 150 series employs Kollmorgen's patented interior magnet design which provides very high torque/inertia and very low cogging. These features make the XT 150 ideally suited for applications requiring high dynamic response as well as those requiring smooth slow speed operation. The proprietary stator assembly helps provide high torque density, allowing the XT 150 to fit into tight spaces.

The XT150 series offers a wide range of standard features and options including:

Features

- 3 stack lengths
- Compact size
- Excellent torque/inertia
- Low cogging
- IP-65 sealing
- NEMA 23 and 65 mounting
- 360° rotatable connectors
- Rugged 2048 PPR encoder feedback
- Built-in PTC thermistors
- UL recognized, CE compliant

Options

- IP-67 sealing
- Integral electrically released brake (24 or 90 VDC)
- Resolver feedback
- Mating connectors

The Kollmorgen **GOLD**LINE XT 150 is fully compatible with the Kollmorgen SERVO**STAR**® CD digital amplifier for both 115 V and 230 VAC operation.

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Kollmorgen GOLDLINE XT

150x PERFORMANCE DATA

Parameters	Symbols	Units	MT1502A	MT1504A
Horsepower[1, 2]	HP Rated	HP	0.31	0.50
Kilowatts[1, 2]	kW Rated	kW	0.23	0.37
Speed at Rated Power	N Rated	RPM	6000	6000
Max Operating Speed	N Max	RPM	6000	6000
Continuous Torque (Stall)[1]	Tc	lb-ft	0.32	0.55
at 40ºC Ambient		N-m	0.44	0.74
Continuous Torque (Stall)[1]	Tc	lb-ft	0.35	0.59
at 25ºC Ambient		N-m	0.47	0.80
Continuous Line Current	Ic	Amps RMS	2.2	2.9
Peak Torque[1]	Tp	lb-ft	0.92	1.72
		N-m	1.25	2.34
Peak Line Current	Ip	Amps RMS	7.2	10.6
Max Theoretical Acceleration[3]	Z	rad / sec^2	120,000	137,000
Torque Sensitivity (Stall) ±10%[1]	Kt	lb-ft / Amp RMS	0.149	0.190
		N-m / Amp RMS	0.202	0.258
Back EMF (Line-to-Line) ±10%[1]	Kb	VRMS / kRPM	12.2	15.6
Max Line-to-Line Volts	VMax	Volts RMS	250	250
DC Res at 25ºC (Line-to-Line) ±10%	Rm	Ohms	6.85	3.80
Inductance (Line-to-Line) ±30%	Lm	mh	13.2	9.9
Rotor Inertia[3]	Jm	lb-ft-sec^2	0.00000764	0.0000126
		kg-m^2	0.0000104	0.0000171
Weight (without brake)	Wt	lb	2.4	2.9
		kg	1.1	1.3
Weight (with brake)	Wt	lb	3.4	3.9
		kg	1.5	1.8
Static Friction	Tf	lb-ft	0.0053	0.0096
		N-m	0.0072	0.0130
Thermal Time Constant	TCT	Minutes	12	15
Viscous Damping Z Source	Fi	lb-ft / kRPM	0.0017	0.0036
		N-m / kRPM	0.0023	0.0049
Motor Constant at 25ºC	Km	lb-ft / $\sqrt{\text{Watts}}$	0.050	0.086
		N-m / $\sqrt{\text{Watts}}$	0.068	0.116
Thermal Resistance at Stall	Rth	ºC / Watt	1.33	1.36
Number of Poles			8	8

Notes:

1. Refer to the SERVOSTAR® CD with Kollmorgen GOLDLINE® XT motors SYSTEMS TECHNICAL PUBLICATION for Kollmorgen GOLDLINE XT Performance Curves.
2. For models with shaft seals, derate torque at all speeds by 0.026 lb-ft (0.035 N-m)
3. Continuous duty operation is based on using 8”x 12”x 3/8” aluminum plate.
4. All values are typical unless otherwise noted.

[1] Values with motor at ultimate winding temperature.
[2] Typical for operation with Kollmorgen drive utilizing patented torque & speed angle control.
[3] Values reflect motor with encoder feedback and no brake. For resolver add: 0.017 x 10^{-4} lb-ft-s^2 (0.023 x 10^{-4} Kg-m^2)

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150x PERFORMANCE DATA

MT1506A	MT1506B	Units	Symbols	Parameters
0.90	0.87	HP	HP Rated	**Horsepower[1, 2]**
0.67	0.65	kW	kW Rated	**Kilowatts[1, 2]**
6000	6000	RPM	N Rated	**Speed at Rated Power**
6000	6000	RPM	N Max	**Max Operating Speed**
1.00	1.02	lb-ft	Tc	**Continuous Torque (Stall)[1]**
1.35	1.38	N-m		**at 40ºC Ambient**
1.07	1.10	lb-ft	Tc	**Continuous Torque (Stall)[1]**
1.45	1.49	N-m		**at 25ºC Ambient**
2.9	5.9	Amps RMS	Ic	**Continuous Line Current**
3.41	3.44	lb-ft	Tp	**Peak Torque[1]**
4.62	4.67	N-m		
11.4	22.7	Amps RMS	Ip	**Peak Line Current**
157,000	159,000	rad / sec^2	Z	**Max Theoretical Acceleration[3]**
0.351	0.177	lb-ft / Amp RMS	Kt	**Torque Sensitivity (Stall) ±10%[1]**
0.476	0.240	N-m / Amp RMS		
28.8	14.5	VRMS / kRPM	Kb	**Back EMF (Line-to-Line) ±10%[1]**
250	250	Volts RMS	VMax	**Max Line-to-Line Volts**
5.33	1.34	Ohms	Rm	**DC Res at 25ºC (Line-to-Line) ±30%**
14.9	3.7	mh	Lm	**Inductance (line-to-line) ±30%**
0.0000217	0.0000217	lb-ft-sec^2	Jm	**Rotor Inertia[3]**
0.0000294	0.0000294	kg-m^2		
4.1	4.1	lb	Wt	**Weight (without brake)**
1.9	1.9	kg		
5.1	5.1	lb	Wt	**Weight (with brake)**
2.3	2.3	kg		
0.018	0.018	lb-ft	Tf	**Static Friction**
0.024	0.024	N-m		
24	24	Minutes	TCT	**Thermal Time Constant**
0.0051	0.0051	lb-ft / kRPM	Fi	**Viscous Damping Z Source**
0.0069	0.0069	N-m / kRPM		
0.134	0.135	lb-ft / $\sqrt{\text{Watts}}$	Km	**Motor Constant at 25ºC**
0.182	0.183	N-m / $\sqrt{\text{Watts}}$		
0.99	0.96	ºC / Watt	Rth	**Thermal Resistance at Stall**
8	8			**Number of Poles**

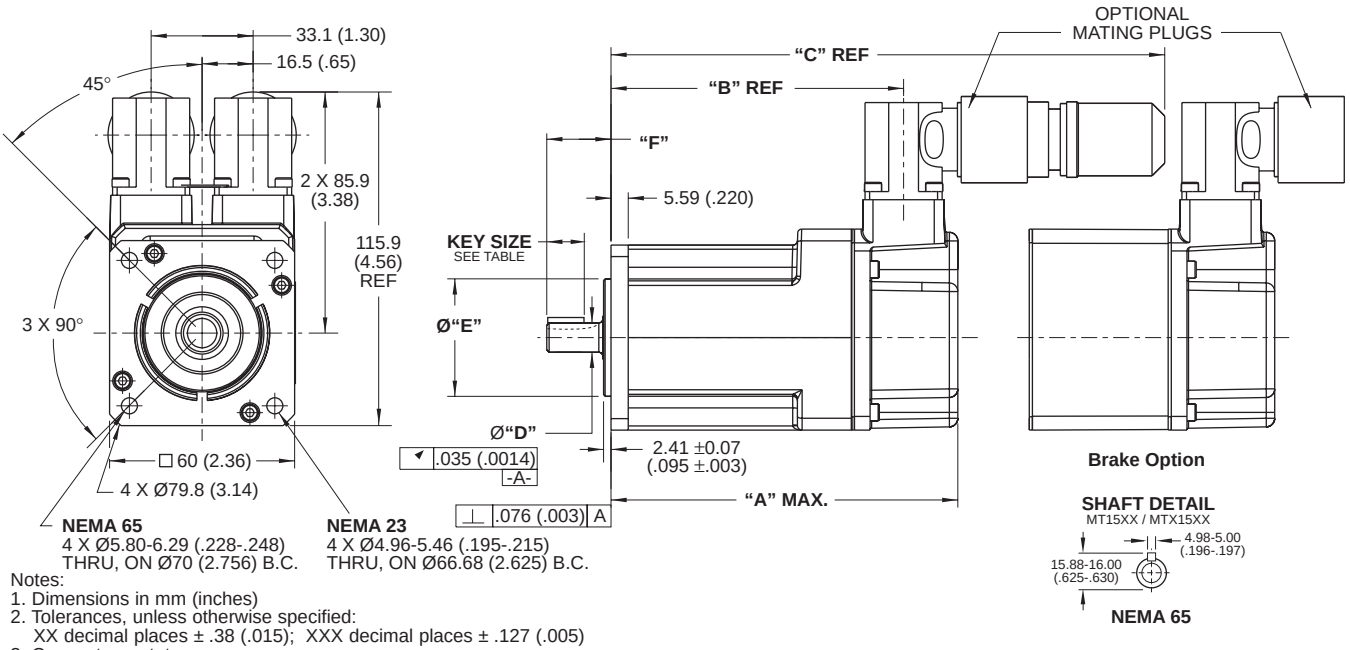
Electrically Released Brake

Motor	Input Voltage[1] VDC	Input Current ADC	Static Holding Torque[2] lb-ft (N-m)	Inertia lb-ft-s^2 (kg-m^2)	Max Speed RPM
MTB15xxx	90	0.071	1.14(1.55)	.0000074(.00001)	12000
MTC15xxx	24	0.33	1.14(1.55)	.0000074(.00001)	12000

[1] ± 10% on inputs
[2] Static holding torque only. Must not be used in dynamic braking.

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MT(x)150x 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.

Model	"A" MAX.		"B" REF		"C" REF		"D"		"E"		"F" ±0.5 (±.020)		Key Length	
	w/ brake	w/o brake	w/ brake	w/o brake	w/ brake	w/o brake	NEMA 23	NEMA 65	NEMA 23	NEMA 65	NEMA 23	NEMA 65	NEMA 23	NEMA 65
MT(B)1502	158.70 (6.248)	113.4 (4.465)	140.33 (5.525)	95.31 (3.752)	230.38 (9.07)	185.42 (7.30)	9.513	13.997	38.05	49.99	20.83	30	no	20 (.79)
MT(B)1504	174.24 (6.860)	128.94 (5.077)	155.88 (6.137)	110.85 (4.364)	245.87 (9.68)	200.91 (7.91)	9.525 (.3745)	14.006 (.5511)	38.15 (1.498)	50.01 (1.968)	(.820)	(1.181)	keyway	20 (.79)
MT(B)1506	205.23 (8.080)	160.03 (6.301)	186.97 (7.361)	141.94 (5.588)	277.11 (10.91)	231.90 (9.13)	(.3750)	(.5515)	1.502	1.969				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	- $\overline{A}$ (blue/black)
Pin	3	- B (green)
Pin	4	- $\overline{B}$ (green/black)
Pin	5	- Z (violet)
Pin	6	- $\overline{Z}$ (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)

Resolver Receptacle:

Pin	9	- R1 (Red/White)
Pin	5	- R2 (Yel/White)
Pin	7	- S1 (Red)
Pin	3	- S3 (Black)
Pin	8	- S2 (Yellow)
Pin	4	- S4 (Blue)
Pin	2	- Thermostat (Yellow)
Pin	6	- Thermostat (Yellow)

Ordering Information

MT B[a] 150 2 A 1 - E 1 C 1 - xxx[b]

Brake Option
B - 90 VDC brake
C - 24 VDC brake

Frame Size
150 - 60 mm

Stack Length, Number
2, 4, 6

Winding Letter
A, B

Rotor Inertia
1 - Minimum Inertia

Feedback Option
E - 2048 LPR incremental encoder
R - Resolver

Mounting Option
1 - NEMA 65 (XT15)
2 - NEMA 23 (XT15)

Connector Option
C - 90° rotatable receptacles
D - 90° rotatable w/ CE mating plugs

Shaft Seal Option
1 - Standard w/ shaft seal (IP65)
2 - IP67 and shaft seal
3 - No shaft seal

Sequential number for specials

[a] - Omit if not specified
[b] - Omit if not special

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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