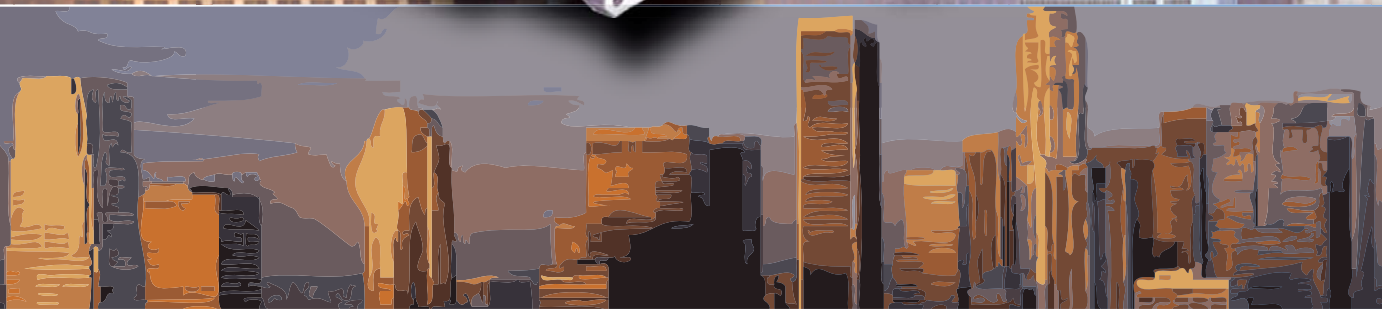
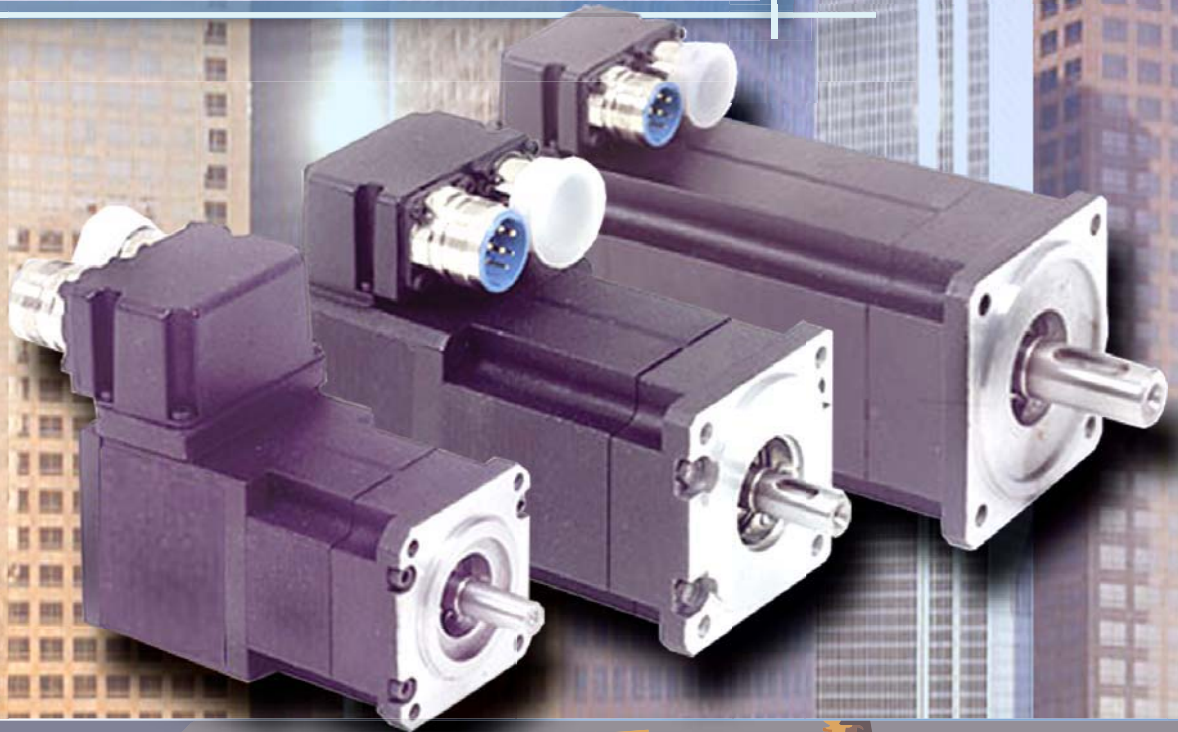


# IB Series Servomotors

## AC Brushless Servomotors Low Inertia - High Torque

**Servo Dynamics IB Servomotor** provides applications with low inertia to attain the highest acceleration capability – to allow you to position faster. The IB series is used in the world's fastest machines and demanding applications. IB Servomotor provides low inertia and high torque desired for excellent performance response, and is a rugged, durable design, they have heavy duty continuous operation for dependability and assurance that it will always perform, and high acceleration capability to move faster, and high torque to inertia ratio enables the machine to produce more parts per hour. And winding potted for high voltage protection and for improved reliability and improved heat transfer.



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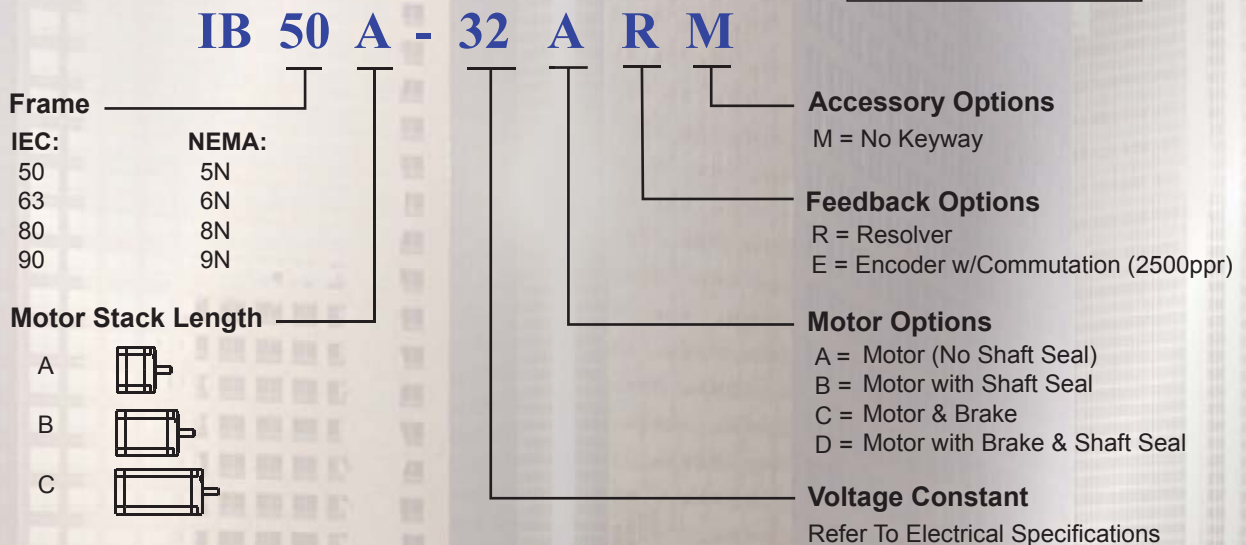
The IB brushless servomotors provide a very responsive acceleration in a rugged, durable design with high energy Neodymium-Iron-Boron magnetics. This series provides continuous stall torque capability ranging from 3.9 Lb-In (0.45 N-m) to 117 Lb-In (13.3 N-m). Peak torque capability is nominally 4 times continuous. This series has the lowest inertia to provide the maximum torque per package size.

### Features:

- Low inertia rotor design with Neo magnets - 4 standard frame sizes to choose
- Acceleration torques from 16 Lb-In (1.8 N-m) to 471 Lb-In (53.2 N-m)
- High output torque at low speed – continuous 4 Lb-In (0.4 N-m) to 117 Lb-In (13.3 N-m)
- Inertia range 0.00006 - .00082 Lb-In-s<sup>2</sup> (0.067 - 9.264 Kg-cm<sup>2</sup>)
- Dependability designed in the high 155°C design
- Premium 200°C moisture resistant, multi-coated wire for reliability
- Extra high insulated stator for high voltage and current spike protection
- Superior bearings with Exxon PolyrexEM™ polyrex grease to provide 4 times greater life
- Rugged industrial construction to provide quality throughout the design
- Stock and customs available - IEC/NEMA designs
- UL/CSA/CE

### Model Numbering System:

SD IB Model Number - Version 1.00



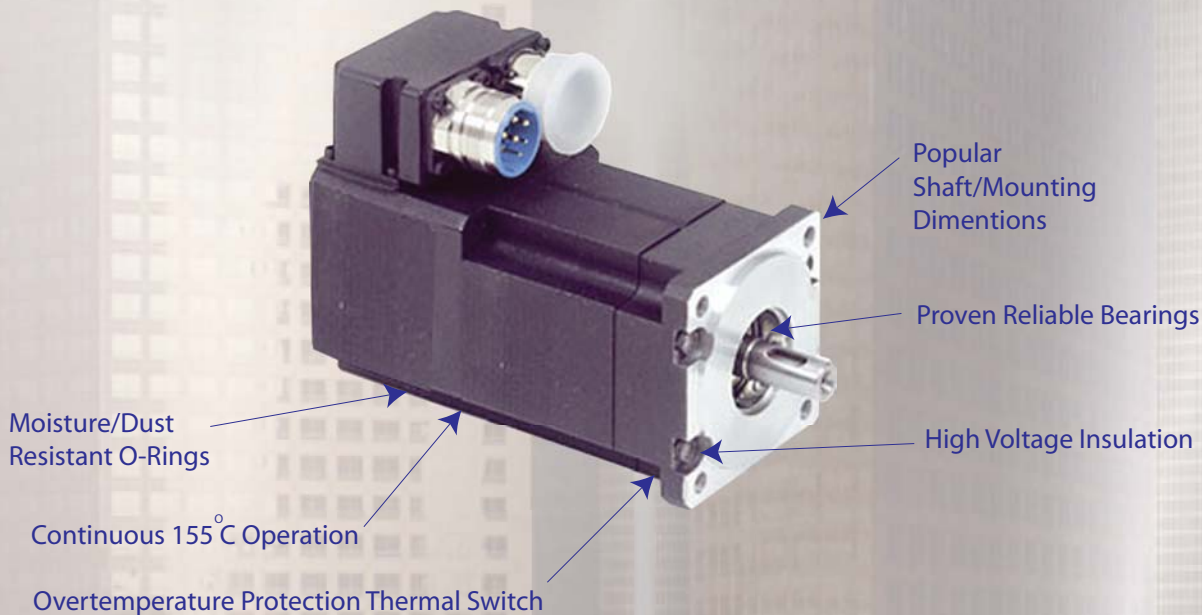
1. The standard IB50/63/80 Series includes commutation resolver, two threaded connectors (metric style) for resolver and motor terminations, IEC square mounting flange.
2. The standard IB90 Series includes commutation resolver, one threaded connector (metric style) for resolver, termination of motor lead wires on terminal block, IEC square flange.
3. Motors will meet IP65 by adding shaft seal.
4. The IB50 Series is standard without keyway.
5. Contact Servo Dynamic Corp. for special options.

## Electrical Specifications:

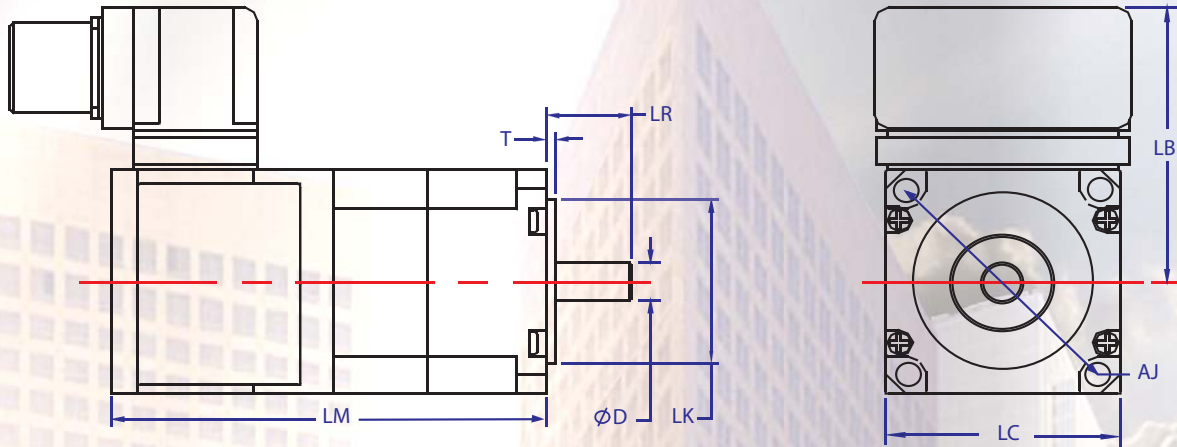
Updated : 11/29/05

IB		Physical Specs		Motor Constants			Contin. Specs			Peak Values			Modeling values					
Index	Model Number	Weight		Torque Constant (Peak) (L2L)			Cont. Stall Torque		Cont. Stall Current	Peak Stall Torque		Peak Stall Current	Max Speed	L-to-L Resistance	L-to-L Inductance	Rotor Inertia		
	IEC Mounting	NEMA Mounting	W		K <sub>T</sub>		K <sub>E</sub>	T <sub>cs</sub>		I <sub>cs</sub>	T <sub>P</sub>		I <sub>P</sub>	n <sub>max</sub>	R	L	J	
			kg	lb	Nm/A	lb-in/amp	V/kRPM	Nm	lb-in	A	Nm	lb-in	A	rpm	ohms	mH	kg-cm <sup>2</sup>	lb-in-sec <sup>2</sup>
1	IB 50 A - 32	IB 5N A - 32	1.10	2.40	0.38	3.36	32.30	0.45	3.90	1.38	1.80	15.90	4.00	7000	12.30	19.90	0.0677	0.00006
2	IB 50 B - 32	IB 5N B - 32	1.60	3.40	0.38	3.36	32.30	0.91	8.00	2.87	3.65	32.30	10.00	7000	4.07	8.90	0.1240	0.00011
3	IB 50 C - 32	IB 5N C - 32	2.00	4.40	0.38	3.31	31.90	1.36	12.00	4.30	5.44	48.15	15.00	7000	2.20	4.20	0.1800	0.00016
4	IB 50 A - 65	IB 5N A - 65	1.10	2.40	0.75	6.63	65.00	0.45	3.90	0.69	1.80	15.90	2.00	7000	50.18	68.00	0.0677	0.00006
5	IB 50 B - 65	IB 5N B - 65	1.60	3.40	0.75	6.63	65.00	0.91	8.00	1.40	3.65	32.00	5.00	7000	16.20	35.10	0.1240	0.00011
6	IB 50 C - 62	IB 5N C - 62	4.40	2.00	0.72	6.38	61.60	1.36	12.00	2.20	5.44	48.15	8.00	7000	8.25	15.16	0.1800	0.00016
7	IB 63 A - 34	IB 6N A - 34	1.68	3.70	0.39	3.48	33.65	0.77	6.80	2.17	3.08	27.25	7.82	7000	9.40	12.77	0.2031	0.00018
8	IB 63 B - 33	IB 6N B - 33	2.30	5.00	0.39	3.41	33.00	1.47	13.00	4.23	5.88	52.04	15.23	7000	3.10	4.75	0.3840	0.00034
9	IB 63 C - 32	IB 6N C - 32	2.90	6.30	0.37	3.28	31.74	2.09	18.50	6.26	8.36	73.99	22.53	7000	1.50	2.85	0.5640	0.00050
10	IB 63 A - 67	IB 6N A - 67	1.68	3.70	0.79	6.96	67.30	0.77	6.80	1.08	3.08	27.25	3.91	7000	37.40	53.63	0.2031	0.00018
11	IB 63 B - 66	IB 6N B - 66	2.30	5.00	0.77	6.84	66.00	1.47	13.00	2.11	5.88	52.04	7.61	7000	11.60	24.77	0.3840	0.00034
12	IB 63 C - 70	IB 6N C - 70	2.90	6.30	0.75	6.63	64.13	2.09	18.50	3.09	11.15	73.99	10.19	7000	5.92	13.67	0.5640	0.00050
13	IB 80 A - 30	IB 8N A - 30	3.20	7.00	0.39	3.40	29.60	1.65	14.60	4.74	6.60	58.41	17.10	7000	2.10	5.20	0.9150	0.00081
14	IB 80 B - 35	IB 8N B - 35	4.60	10.00	0.41	3.59	34.70	3.20	28.30	8.76	12.80	113.28	31.50	7000	0.83	2.73	1.7170	0.00152
15	IB 80 A - 51	IB 8N A - 51	3.20	7.00	0.60	5.30	51.30	1.65	14.60	3.05	6.60	58.41	11.00	7000	5.10	13.97	0.9150	0.00081
16	IB 80 B - 54	IB 8N B - 54	4.60	10.00	0.63	5.60	54.10	3.20	28.30	5.61	12.80	113.28	20.20	7000	0.81	5.30	1.7170	0.00152
17	IB 80 C - 50	IB 8N C - 50	6.00	13.00	0.58	5.15	49.70	4.52	40.00	8.61	18.08	160.00	31.01	7000	0.94	4.00	2.5190	0.00223
18	IB 80 A - 73	IB 8N A - 73	3.20	7.00	0.85	7.50	73.30	1.65	14.60	2.14	6.60	58.41	7.69	7000	9.53	28.00	0.9150	0.00081
19	IB 90 A - 71	IB 9N A - 71	8.20	18.00	0.83	7.31	70.64	6.00	53.00	8.07	24.00	212.41	29.05	6000	1.24	4.15	3.3890	0.00300
20	IB 90 B - 150	IB 9N B - 150	12.70	28.00	1.75	15.45	149.60	10.00	88.00	6.36	40.00	354.00	22.90	5700	0.92	10.50	6.3270	0.00560
21	IB 90 C - 264	IB 9N C - 264	17.30	38.00	1.51	13.31	264.41	13.30	117.00	8.92	53.20	471.00	32.14	5800	1.02	5.53	9.2640	0.00820

Note: Number of poles for all the motors is 4, except for the IB 90s, which is 8.



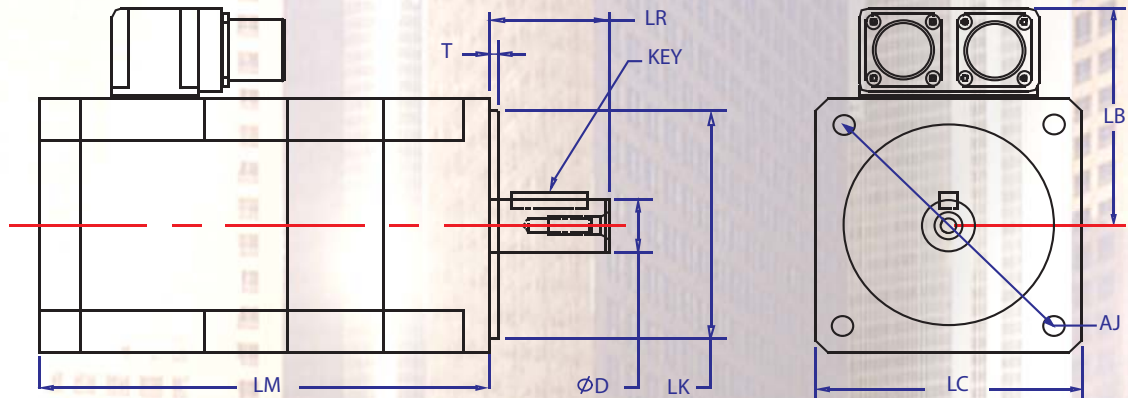
IB 5N Series-NEMA 23



Inches (mm)

NEMA 23		LM	T	LR	LC	AJ	LK	LB	D	KEY
5N	A	4.00 (102)	0.10 (2.5)	0.812 (20)	2.17 (55)	0.2 in Thru hole 2.625 B.C	1.50 (38)	2.64 (67)	0.25 (6.3)	-
	B	5.00 (127)	0.10 (2.5)	0.812 (20)	2.17 (55)		1.50 (38)	2.64 (67)	0.25 (6.3)	-
	C	6.00 (153)	0.10 (2.5)	0.812 (20)	2.17 (55)		1.50 (38)	2.64 (67)	0.25 (6.3)	-

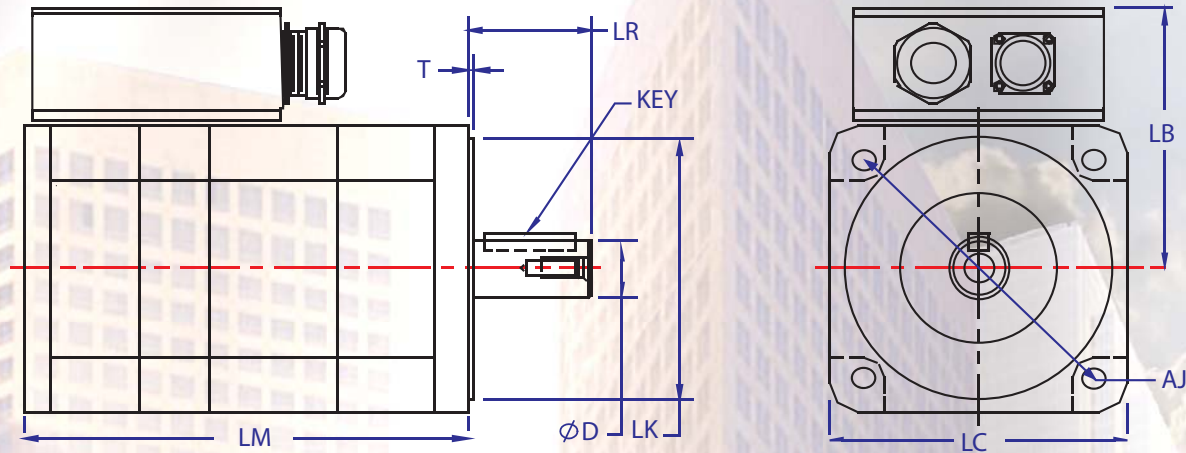
IB 63/80 Series-NEMA 34/42



Inches (mm)

NEMA 34/42		LM	T	LR	LC	AJ	LK	LB	D	KEY
6N	A	4.56 (116)	0.10 (2.5)	1.25 (31)	3.41 (87)	0.22 in Thru hole 3.875 B.C.	2.875 (73)	2.9 (74)	0.375 (9.5)	0.1875 x 0.1875 x 1.5
	B	5.56 (141)	0.10 (2.5)	1.25 (31)	3.41 (87)		2.875 (73)	2.9 (74)	0.375 (9.5)	
	C	6.56 (167)	0.10 (2.5)	1.25 (31)	3.41 (87)		2.875 (73)	2.9 (74)	0.375 (9.5)	
8N	A	5.96 (151)	0.10 (2.5)	2.06 (52)	4.00 (102)	0.28 in Thru hole 4.95 B.C.	2.187 (55)	3.0 (76)	0.625 (15.9)	
	B	7.21 (183)	0.10 (2.5)	2.06 (52)	4.00 (102)		2.187 (55)	3.0 (76)	0.625 (15.9)	
	C	8.46 (214)	0.10 (2.5)	2.06 (52)	4.00 (102)		2.187 (55)	3.0 (76)	0.625 (15.9)	

IB 9N Series - NEMA 56

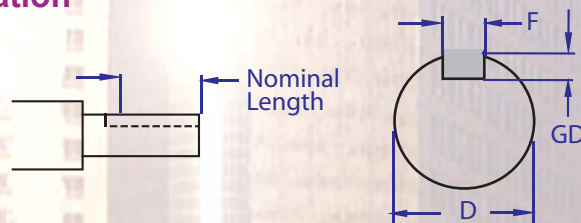


Inches (mm)

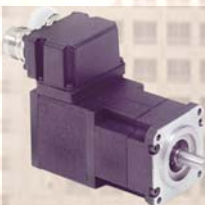
NEMA 56	LM	T	LR	LC	AJ	LK	LB	D	KEY <sup>4</sup> GDxFxL	
9N	A	7 (177)	0.13 (3.3)	2.063 (52)	5.17 (131)	0.4 in. Thru hole 5.875 B.C.	4.5 (114)	4.3 (108)	0.625 (15)	
	B	9 (228)	0.13 (3.3)	2.063 (52)	5.17 (131)		4.5 (114)	4.3 (108)	0.625 (15)	0.1875 x 0.1875 x 1.5
	C	11 (279)	0.13 (3.3)	2.063 (52)	5.17 (131)		4.5 (114)	4.3 (108)	0.625 (15)	

- 1) Standard configuration: All motors supplied with commutation resolver, NEMA mounting.
- 2) IB 50/63/80 has two threaded connectors (metric style) for resolver and motor terminations.
- 3) IB 90 has one threaded connector (metric style) for resolver, termination of motor lead wires and terminal block.
- 4) Refer to NEMA Key Configuration
- 5) Detailed engineering drawings available upon request.

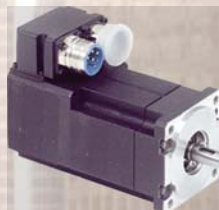
NEMA Key Configuration



IB 5N Series



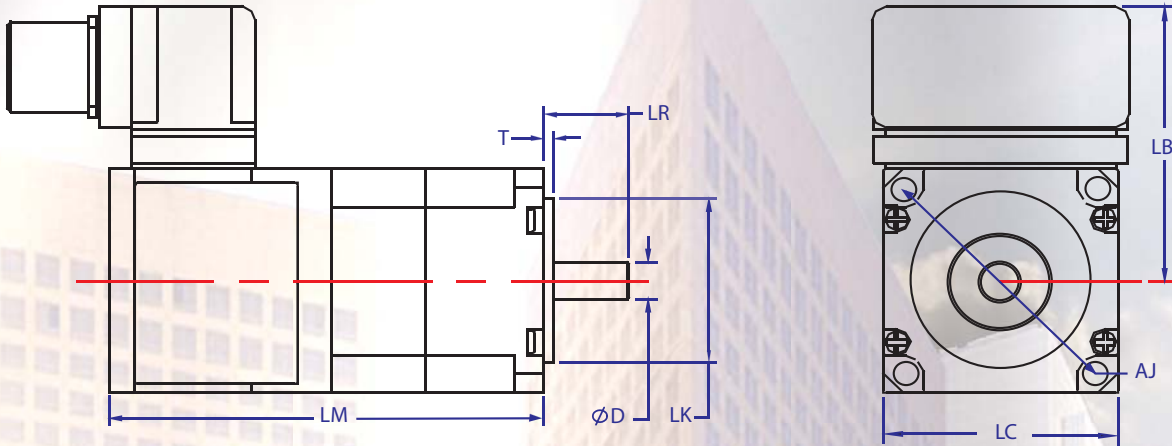
IB 6N Series



IB 9N Series



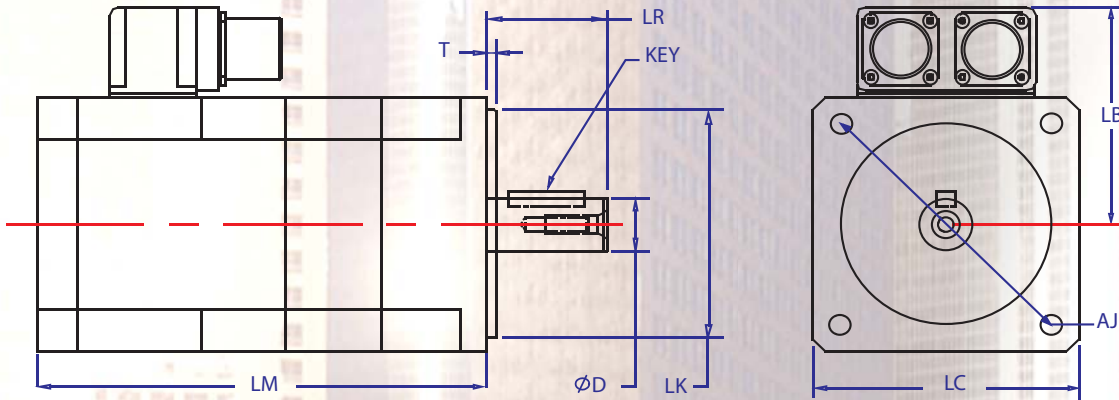
### IB 50 Series-IEC Mounting



Inches (mm)

IB	LM	T	LR	LC	AJ	LK	LB	D	KEY	
50	A	4 (102)	0.098 (2.5)	0.78 (20)	2.2 (55)	4.5 mm Thru hole 63 B.C.	1.57 (39.9)	2.64 (67)	0.354 (9.0)	-
	B	5 (127)	0.098 (2.5)	0.78 (20)	2.2 (55)		1.57 (39.9)	2.64 (67)	0.354 (9.0)	-
	C	6 (153)	0.098 (2.5)	0.78 (20)	2.2 (55)		1.57 (39.9)	2.64 (67)	0.354 (9.0)	-

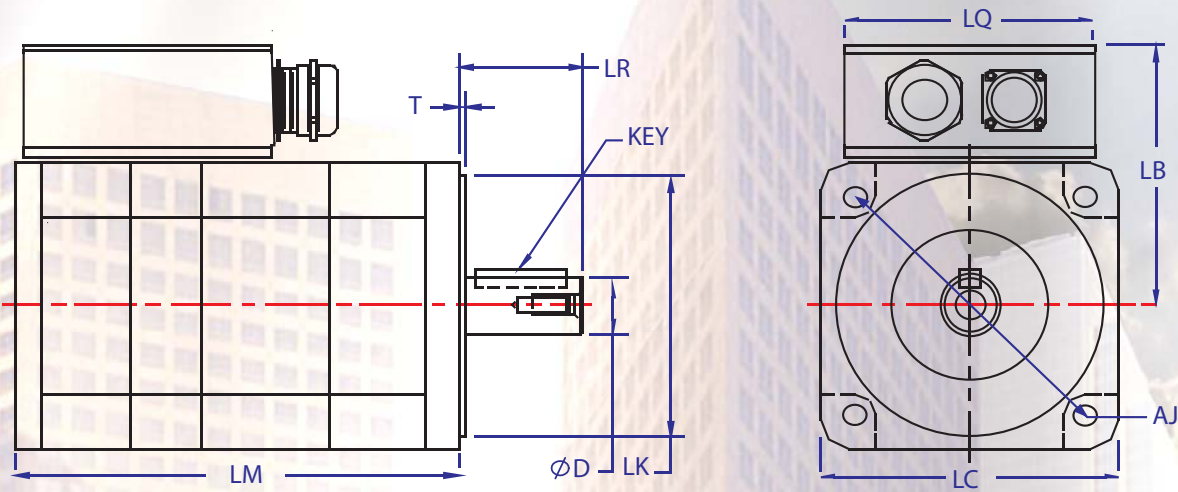
### IB 63/80 Series-IEC Mounting



Inches (mm)

IB	LM	T	LR	LC	AJ	LK	LB	D	KEY	
63	A	4.56 (116)	0.098 (2.5)	0.92 (23)	2.6 (67)	5.6 mm Thru hole 75 mm B.C.	2.36 (60.0)	2.6 (65)	0.43 (11.0)	4x4x12
	B	5.56 (141)	0.098 (2.5)	0.92 (23)	2.6 (67)		2.36 (60.0)	2.6 (65)	0.43 (11.0)	4x4x12
	C	6.56 (167)	0.098 (2.5)	0.92 (23)	2.6 (67)		2.36 (60.0)	2.6 (65)	0.43 [11.0]	4x4x12
80	A	5.93 (151)	0.118 (3.0)	1.5 (40)	3.5 (89)	6.6 mm Thru hole 100 mm B.C.	3.2 (80.0)	3.0 (76.3)	0.74 (19.0)	6x6x24
	B	7.18 (183)	0.118 (3.0)	1.5 (40)	3.5 (89)		3.2 (80.0)	3.0 (76.3)	0.74 (19.0)	6x6x24
	C	8.43 (214)	0.118 (3.0)	1.5 (40)	3.5 (89)		3.2 (80.0)	3.0 (76.3)	0.74 (19.0)	6x6x24

### IB 90 Series - IEC Mounting



Inches (mm)

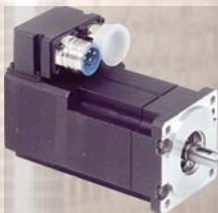
IB	LM	T	LR	LC	AJ	LK	LQ	LB	D	KEY	
90	A	6.99 (177)	0.098 (2.5)	1.95 (50)	4.7 (120)	10 mm Thru hole 130 B.C.	4.33 (110.0)	3.62 (91.9)	4.3 (109)	0.94 (24.0)	8x7x40
	B	8.99 (228)	0.098 (2.5)	1.95 (50)	4.7 (120)		4.33 (110.0)	3.62 (91.9)	4.3 (109)	0.94 (24.0)	8x7x40
	C	10.99 (279)	0.098 (2.5)	1.95 (50)	4.7 (120)		4.33 (110.0)	3.62 (91.9)	4.3 (109)	0.94 (24.0)	8x7x40

- 1) Standard configuration: All motors supplied with commutation resolver, square mounting flange.
- 2) IB 50/63/80 has two threaded connectors (metric style) for resolver and motor terminations.
- 3) IB 90 has one threaded connector (metric style) for resolver, termination of motor lead wires and terminal block.
- 4) Order mating connectors as separate items.
- 5) The motor have a threaded hole on the shaft end.  
 The IB 63 series is M4 x 0.7 threads (11 mm deep)  
 The IB 80/90 series is M6 x 1.0 threads (17 mm deep)
- 6) Detailed engineering drawings available upon request.

IB 50 Series



IB 63 Series



IB 90 Series

