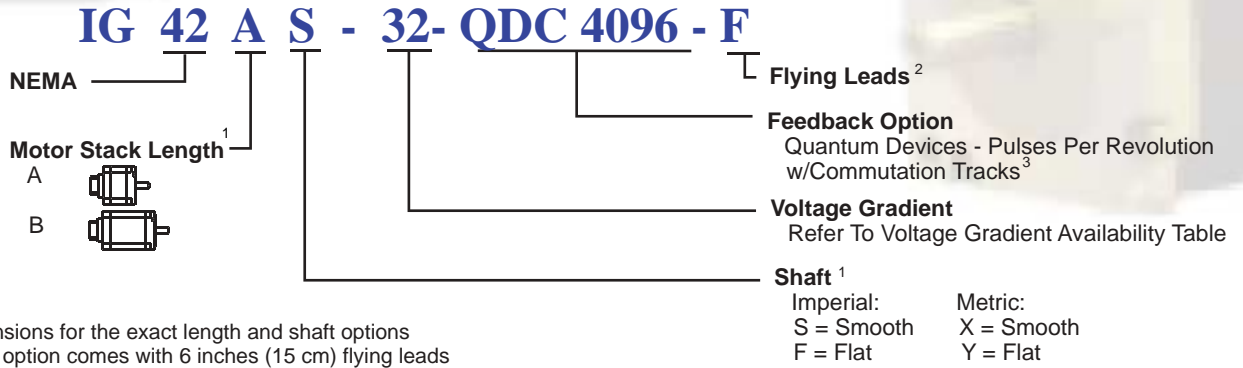


IG 42 - F with QDC Feedback

Model Numbering

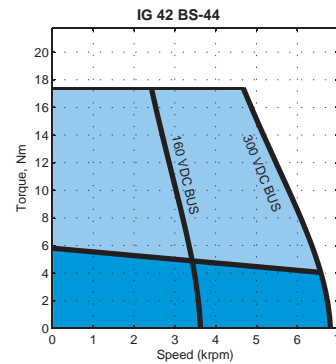
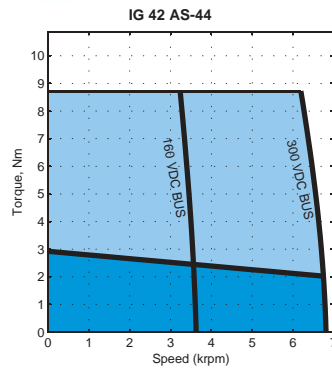


1. Refer to Dimensions for the exact length and shaft options
2. The F housing option comes with 6 inches (15 cm) flying leads
3. Refer to resolution table availability, on page 4

Voltage Gradient

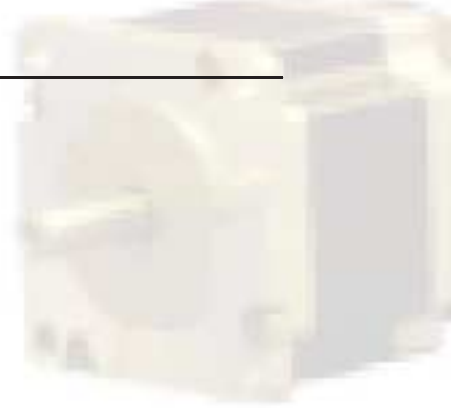
Voltage Constant K_E (V/kRPM)		16	22	32	44	64	88	130	180	260	360
Frame Size	IG 34										
	IG 42										

Performance Curves



Contact factory for torque-speed curves of other motors

IG 42 - F with QDC



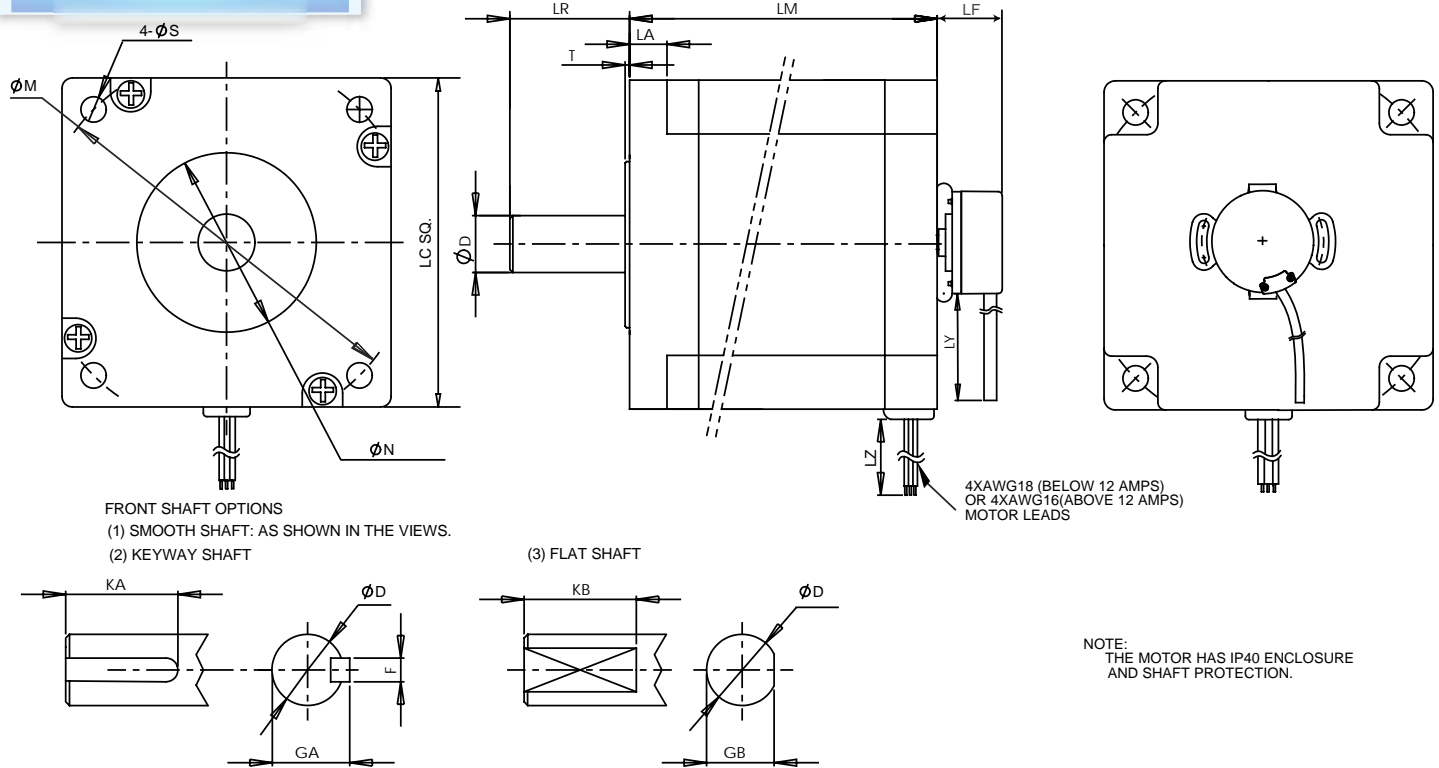
Motor Specification

NEMA 42																			
Index	Model Number	Weight		Torque Constant (Peak) (L2L)		Voltage Constant	Cont. Stall Torque		Cont. Stall Current	Peak Stall Torque		Peak Stall Current	Max BEMF (Peak) (L2L)	Max Speed	L-to-L Resistance	L-to-L Inductance	Rotor Inertia		
		W		K _T		K _E	T _{cs}		I _{cs}	T _p		I _p	U _{max}	n _{max}	R	L	J		
		kg	lb	Nm/A	lb-in/amp	V/krpm	Nm	lb-in	A	Nm	lb-in	A	V	rpm	Ohms	mH	kg-cm ²	lb-in-sec ²	
73	IG 42 AS - 32	5.50	12.13	0.35	3.12	32.00	2.90	25.67	8.22	8.70	77.00	24.65	192.00	6000	0.20	1.10	3.00	0.00266	
74	IG 42 BS - 32	9.20	20.28	0.35	3.12	32.00	5.80	51.33	16.44	17.40	154.00	49.31	192.00	6000	0.16	1.40	6.00	0.00531	
75	IG 42 AS - 44	5.50	12.13	0.49	4.29	44.00	2.90	25.67	5.98	8.70	77.00	17.93	264.00	6000	0.38	2.30	3.00	0.00266	
76	IG 42 BS - 44	9.20	20.28	0.49	4.29	44.00	5.80	51.33	11.95	17.40	154.00	35.86	264.00	6000	0.33	2.90	6.00	0.00531	
77	IG 42 AS - 64	5.50	12.13	0.71	6.25	64.00	2.90	25.67	4.11	8.70	77.00	12.33	384.00	6000	1.10	5.00	3.00	0.00266	
78	IG 42 BS - 64	9.20	20.28	0.71	6.25	64.00	5.80	51.33	8.22	17.40	154.00	24.65	384.00	6000	0.69	6.40	6.00	0.00531	
79	IG 42 AS - 88	5.50	12.13	0.97	8.59	88.00	2.90	25.67	2.99	8.70	77.00	8.97	528.00	6000	1.70	8.00	3.00	0.00266	
80	IG 42 BS - 88	9.20	20.28	0.97	8.59	88.00	5.80	51.33	5.98	17.40	154.00	17.93	528.00	6000	1.15	10.50	6.00	0.00531	
81	IG 42 AS - 130	5.50	12.13	1.43	12.69	130.00	2.90	25.67	2.02	8.70	77.00	6.07	780.00	6000	2.35	12.70	3.00	0.00266	
82	IG 42 BS - 130	9.20	20.28	1.43	12.69	130.00	5.80	51.33	4.05	17.40	154.00	12.14	780.00	6000	1.80	16.70	6.00	0.00531	
83	IG 42 AS - 180	5.50	12.13	1.98	17.57	180.00	2.90	25.67	1.46	7.50	66.38	3.78	1,080.00	6000	5.80	25.00	3.00	0.00266	
84	IG 42 BS - 180	9.20	20.28	1.98	17.57	180.00	5.80	51.33	2.92	15.00	132.76	7.56	1,080.00	6000	3.50	32.00	6.00	0.00531	
85	IG 42 AS - 260	5.50	12.13	2.87	25.38	260.00	2.90	25.67	1.01	7.50	66.38	2.62	1,560.00	6000	11.80	50.70	3.00	0.00266	
86	IG 42 BS - 260	9.20	20.28	2.87	25.38	260.00	5.80	51.33	2.02	15.00	132.76	5.23	1,560.00	6000	7.50	67.00	6.00	0.00531	
87	IG 42 AS - 360	5.50	12.13	3.97	35.14	360.00	2.90	25.67	0.73	7.50	66.38	1.89	2,160.00	6000	20.30	97.80	3.00	0.00266	
88	IG 42 BS - 360	9.20	20.28	3.97	35.14	360.00	5.80	51.33	1.46	15.00	132.76	3.78	2,160.00	6000	14.20	128.00	6.00	0.00531	

L2L: Line-to-Line

IG 42 - F with QDC Feedback

Motor Drawing



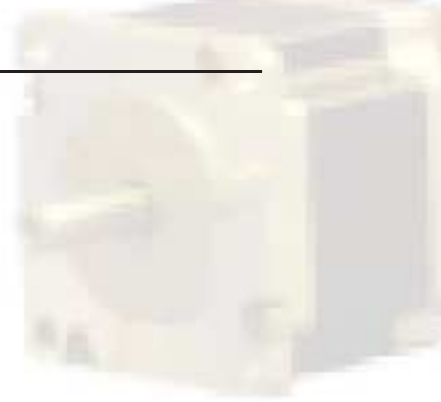
Units: Inches (mm)

IG	LM	LF	LA	T	LR	LC	LZ	LY	N	S	M							
17	A	1.496 (38)	1.00 (25.4)	-	0.079 (2.0)	0.945 (24)	1.665 (42.3)	12 (304.8)	12 (304.8)	0.866 ⁰ _{?0.002}	0.118 (3.0) ¹	1.725 (43.815)						
	B	2.126 (54)			22.00 ⁰ _{?0.05}	38.10 ⁰ _{?0.05}												
	C	2.756 (70)																
23	A	1.890 (48)		0.20 (5.1)	0.060 (1.5)	0.825 (21)	2.220 (56.4)			12 (304.8)	12 (304.8)	1.500 ⁰ _{?0.002}	0.200 (5.1)	2.625 (66.675)				
	B	2.717 (69)		73.03 ⁰ _{?0.031}														
	C	3.543 (90)																
34	A	2.795 (71)		0.33 (8.4)	0.059 (1.5)	1.260 (32)	3.386 (86.0)					12 (304.8)	12 (304.8)	2.875 ⁰ _{?0.0012}	0.217 (5.5)	3.875 (98.425)		
	B	3.858 (98)																
	C	4.921 (125)																
42	A	4.449 (113)		0.49 (12.5)	0.059 (1.5)	2.126 (54)	4.332 (110.0)							12 (304.8)	12 (304.8)	2.186 ⁰ _{?0.0018}	0.335 (8.5)	4.950 (125.730)
	B	6.811 (173)																
	C	-																

¹ For IG17, dimension S is M3*0.5 min depth 0.2 (5.1) threaded hole

IG	Imperial Shaft Option (S/F/K), Units: Inches						Metric Shaft Option (X/Y/Z), Units: mm					
	D	F	GA	KA	GB	KB	D	F	GA	KA	GB	KB
17	0.1969 ⁰ _{?0.0005}	-	-	-	0.177 ⁰ _{?0.004}	0.50	5 ⁰ _{?0.013}	-	-	-	4.5 ⁰ _{?0.1}	12.7
23	0.3750 ⁰ _{?0.0005}	0.0938 ⁰ _{?0.001}	0.416 ⁰ _{?0.002}	0.50	0.340 ⁰ _{?0.004}	0.50	10 ⁰ _{?0.013}	3 ⁰ _{?0.025}	11.2 ⁰ _{?0.051}	15	9.0 ⁰ _{?0.1}	15.0
34	0.5000 ⁰ _{?0.0005}	0.1250 ⁰ _{?0.001}	0.555 ⁰ _{?0.004}	1.00	0.473 ⁰ _{?0.004}	1.00	14 ⁰ _{?0.013}	5 ⁰ _{?0.05}	16.0 ⁰ _{?0.1}	45	13.0 ⁰ _{?0.1}	45.0
42	0.7500 ⁰ _{?0.0005}	0.1875 ⁰ _{?0.0012}	0.830 ⁰ _{?0.004}	1.50	0.709 ⁰ _{?0.004}	1.50	19 ⁰ _{?0.013}	6 ⁰ _{?0.050}	21.5 ⁰ _{?0.1}	45	18.0 ⁰ _{?0.10}	45.0

IG 42 - F with QDC Feedback



Power Cable Wire Code

Wire Color	Function
YEL	PHASE U
GRN	PHASE V
BLU	PHASE W
GRN/YEL	PE

Quantum Devices

Quantum Devices Data

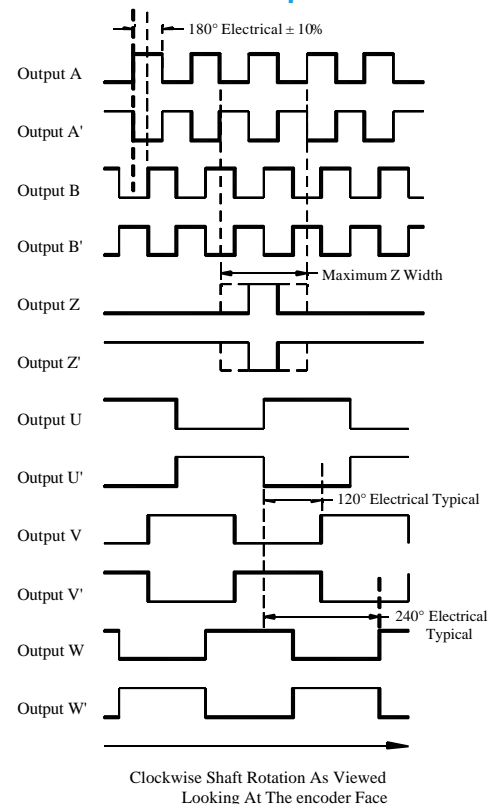
Parameter	Values
Input Voltage	5 VDC \pm 10% Fixed Voltage
Input Current Requirement	100 mA max (65 mA typical) with no output load
Output Data	Incremental - Two square waves in quadrature with channel A leading B for clockwise shaft rotation as viewed from the encoder mounting face
Output Format	Line Driver - 20mA max per channel (meets RS 422 at 5 VDC)
Frequency Response	200 kHz standard, 300 kHz optional
Minimum Edge Separation	67.5° electrical
Commutation Format	8 poles
Commutation Accuracy	1° mechanical
Maximum Speed	8000 RPM
Termination	18" cable (foil and braid shield, 24 AWG conductors non-commutated, 28 AWG commutated),
Operating Temperature	-20 to +85° C standard
Storage Temperature	-25 to +85° C
Available line counts	200, 250, 256, 500, 512, 600, 1000, 1024, 1250, 2000, 2048, 2500, 4096, 5000

Quantum Devices Wiring Diagram

Wire Color	Function
Red	+VDC
Black	Common
Brown	Output A
White	Output A'
Blue	Output B
Green	Output B'
Orange	Output Z
Yellow	Output Z'
Violet	Output U
Gray	Output U'
Brown/White	Output V
Red/White	Output V'
Orange/White	Output W
Yellow/White	Output W'
Black/White	Case Ground
Drain Wire	Cable Shield



Quantum Devices Output Waveforms



Oct, 31, 06