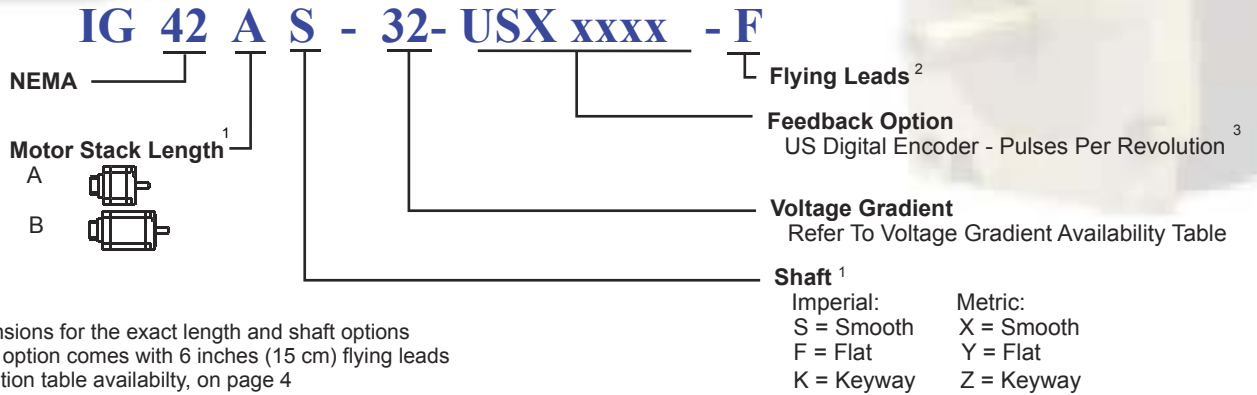


IG 42 - F with USX Feedback

Model Numbering

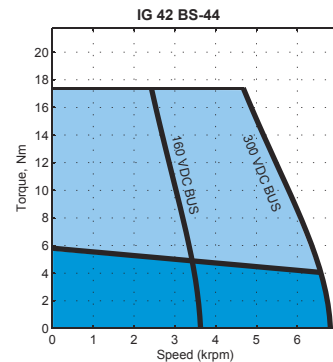
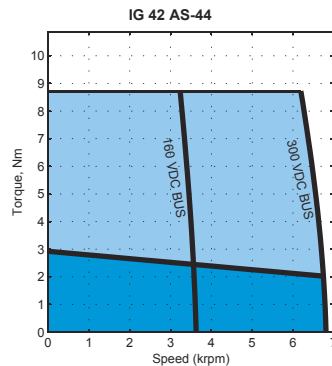


1. Refer to Dimensions for the exact length and shaft options
2. The F housing option comes with 6 inches (15 cm) flying leads
3. Refer to resolution table availability, on page 4

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

OCT,31, 06

IG 42 - F with USX



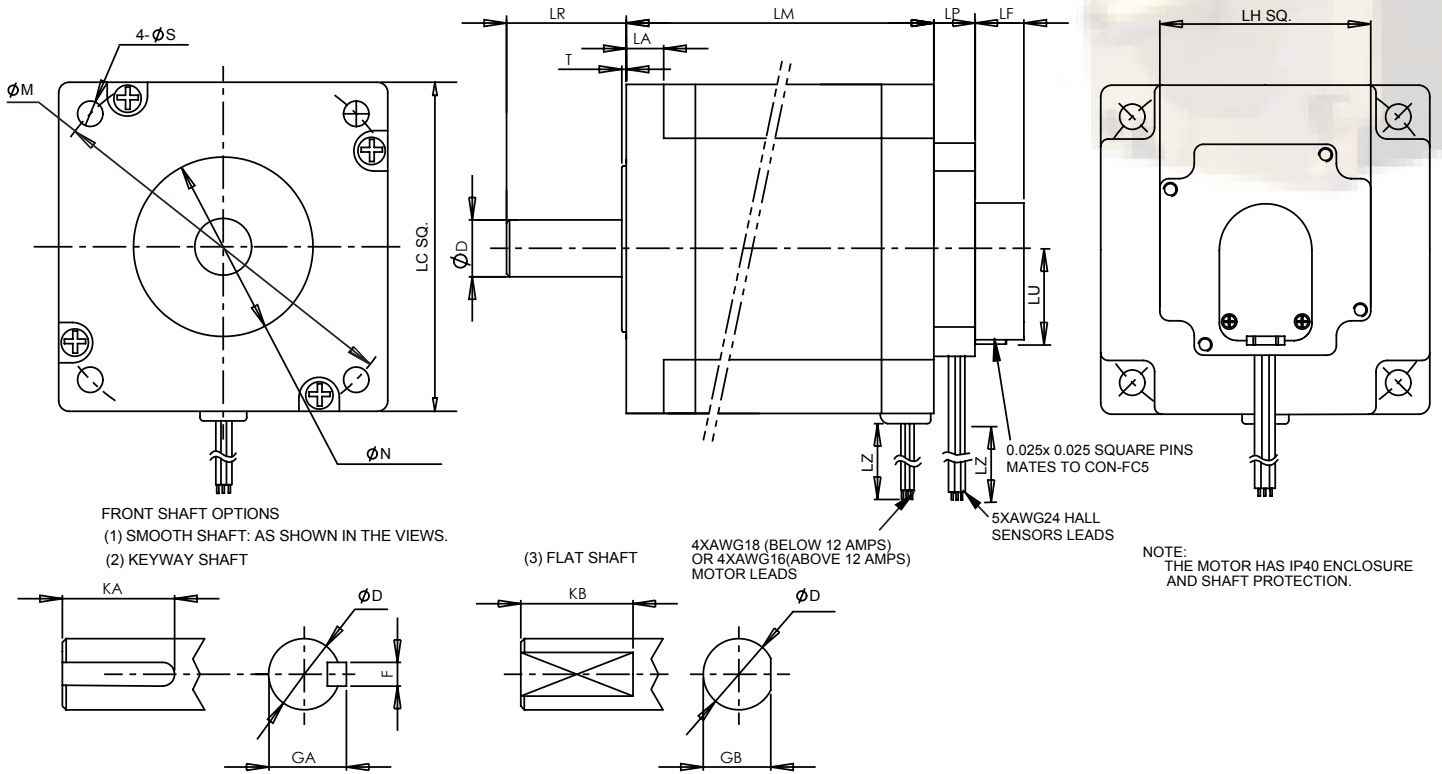
Motor Specification

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 USX Feedback

Drawing



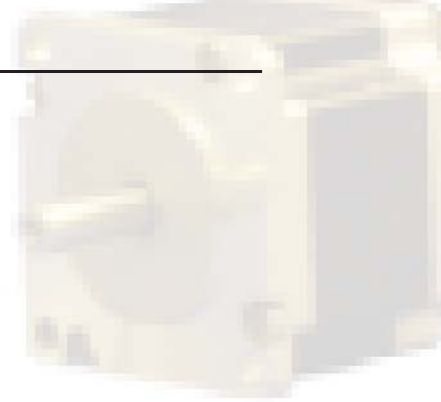
Units: Inches (mm)

IG		LM	LF	LA	T	LR	LC	LP	LH	LZ	LU	N	S	M
42	A	4.449 (113)	0.640 (16.3)	0.49 (12.5)	0.059 (1.5)	2.126 (54)	4.332 (110.0)	0.433 (11)	2.220 (56.4)	12 (304.8)	1.251 (31.7)	2.186 ⁰ _{-0.0018} (55.52 ⁰ _{-0.046})	0.335 (8.5)	4.950 (125.730)
	B	6.811 (173)												
	C	-												

Imperial Shaft Option (S/F/K), Units: Inches							Metric Shaft Option (X/Y/Z), Units: mm					
IG	D	F	GA	KA	GB	KB	D	F	GA	KA	GB	KB
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 _{-0.030}	21.5 ⁰ _{-0.1}	45	18.0 ⁰ _{-0.10}	45.0



IG 42 - F with USX Feedback



Power Cable Wire Code

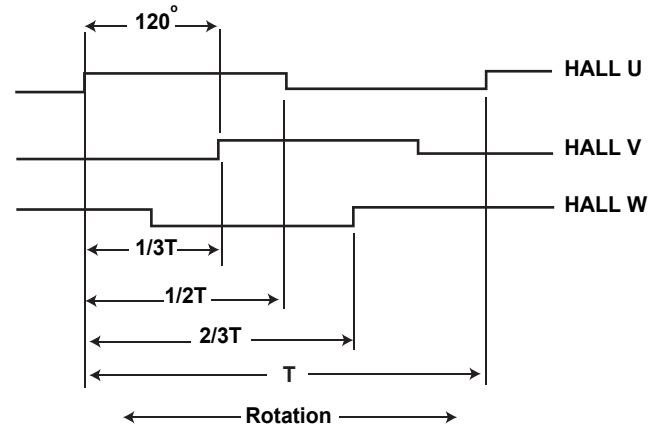
Wire Color	Function
YEL	PHASE U
GRN	PHASE V
BLU	PHASE W
GRN/YEL	PE

Hall Sensor

Hall Sensor Electrical Data

Parameter	Values
Supply Voltage, Vcc	Min. 4.5 V Max. 24 V
Supply Current	Max. 11.3 mA
Output Current	Max. 20 mA
Rise Time	Typ. 0.5 μ s Max. 1.5 μ s
Fall Time	Typ. 0.2 μ s Max. 1.5 μ s
Response Time	Typ. 4.0 μ s Max. 5 μ s
Operating Temperature	-40°C to 125°C (-40°F to 257°F)
Storage Temperature	-55°C to 165°C (-67°F to 329°F)

Hall Sensor Output Waveforms



T = Electrical Period

Hall Sensor Wiring Diagram

Wire Color	Function
RED	+Vcc
YEL	HALL U
GRN	HALL V
BLU	HALL W
BLK	GND

US Encoder

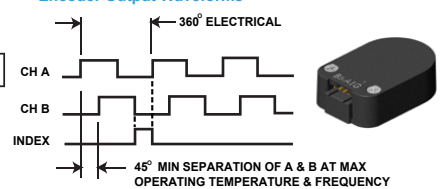
US Digital Encoder Data

Parameter	Values
Input Voltage, Vcc	Typ. +5VDC Min. 4.5 VDC Max. 5.5 VDC
Input Current Requirement	Typ. 57 mA Min. 30 mA Max. 85 mA
Output Voltage	Min. -0.5 VDC Max. Vcc
Output Current Per Channel	Min. -8.0 mA Max. 8.0 mA
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	TTL level output
Frequency Response	100 kHz
Minimum Edge Separation	45° electrical angle
Maximum Speed	6000 rpm
Operating Temperature	-40°C to 100°C
Storage Temperature	-15°C to 85°C
Available line counts	32 to 1250 ppr

E5S Encoder Wiring Diagram

Pin No.	Function
1	GND
2	INDEX
3	CH A
4	+5VDC
5	CH B

Encoder Output Waveforms



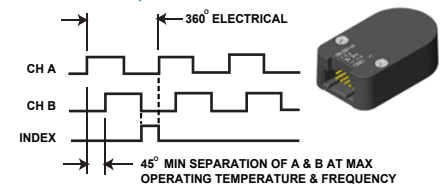
Mating Connector: CON-FC5-22AWG



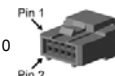
E5D Encoder Wiring Diagram

Wire #	Function
1	Ground
2	Ground
3	Index-
4	Index+
5	A- channel
6	A+ channel
7	+5VDC power
8	+5VDC power
9	B- channel
10	B+ channel

Encoder Output Waveforms



Mating Connector: CON-FC10



Jan, 11, 07