IG 42 - F with HS Feedback

Model Numbering

IG 42 A S - 32- HS - F

- **NEMA**
- **Motor Stack Length** [1]
  - A
  - B
- **Flying Leads** [2]
- **Feedback Option**
  Halls w/Rear Shaft
- **Voltage Gradient**
  Refer To Voltage Gradient Availability Table
- **Shaft** [1]

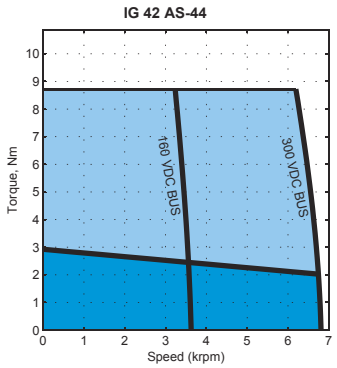
Imperial:	Metric:
S = Smooth	X = Smooth
F = Flat	Y = Flat
K = Keyway	Z = Keyway

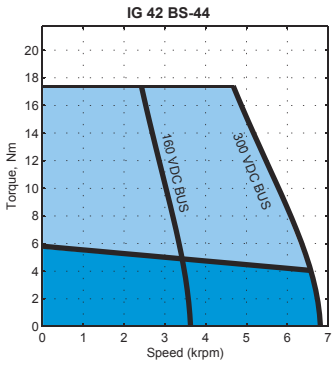
1. Refer to Dimensions for the exact length and shaft options
2. The **F** housing option comes with 6 inches (15 cm) flying leads

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

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IG 42 - F with HS

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

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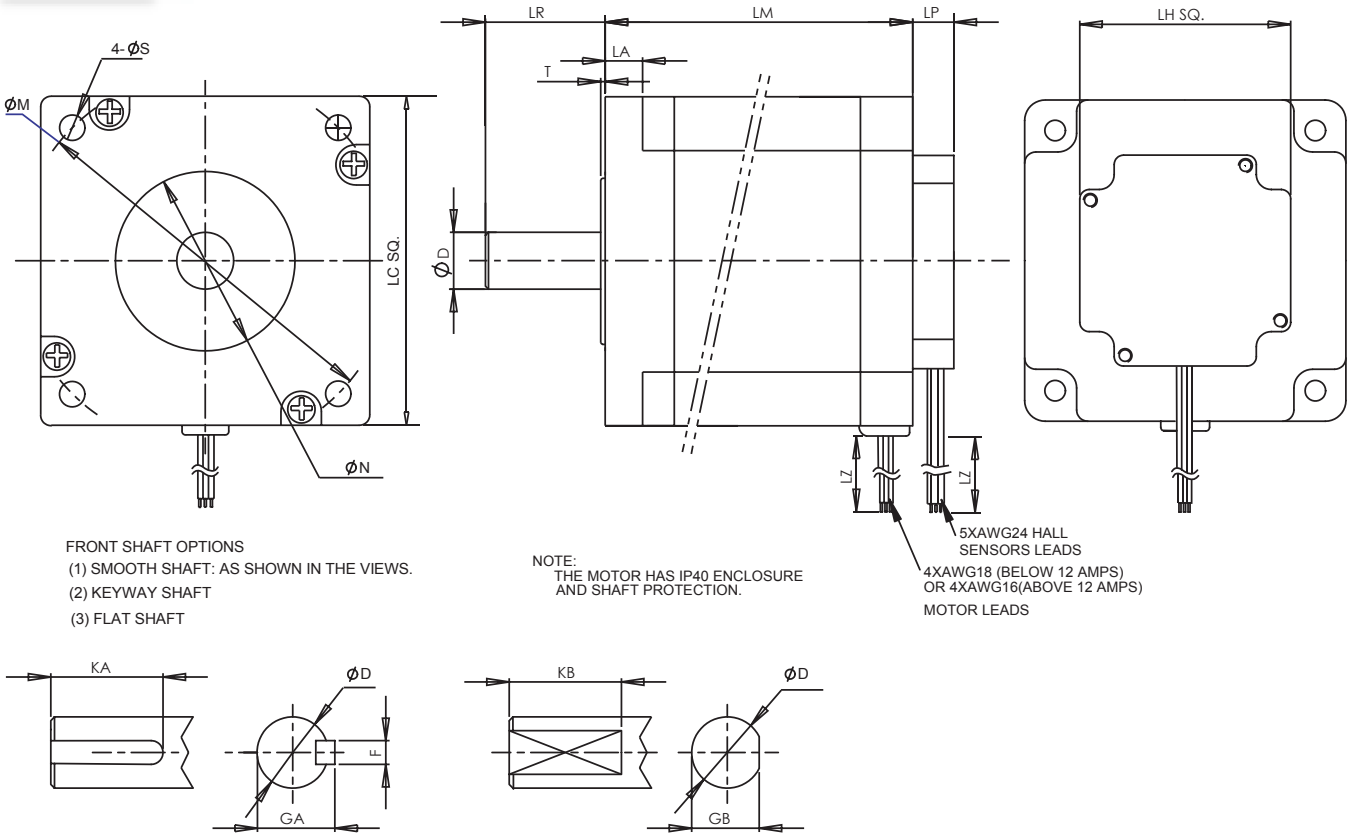
IG 42 - F with HX Feedback

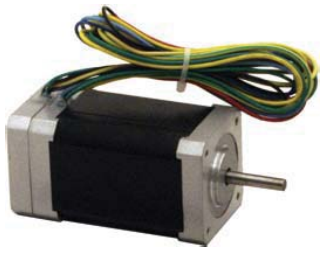
Drawing



Units: inches (mm)

IG		LM	LA	T	LR	LC	LP	LH	LZ	N	S	M
42	A	4.449 (113)	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)	$2.186\ ^{0}_{-0.0018}$ ($55.52\ ^{0}_{-0.046}$)	0.335 (8.5)	4.950 (125.73)
	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	$0.7500\ ^{0}_{-0.0005}$	$0.1875\ ^{0}_{-0.0012}$	$0.830\ ^{0}_{-0.004}$	1.5	$0.709^{0}_{-0.004}$	1.50	$19^{0}_{-0.013}$	$6^{0}_{-0.030}$	$21.5\ ^{0}_{-0.1}$	45	$18.0\ ^{0}_{-0.10}$	45.0



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IG 42 - F with HS Feedback

Power Cable Wire Code

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

Hall Sensor

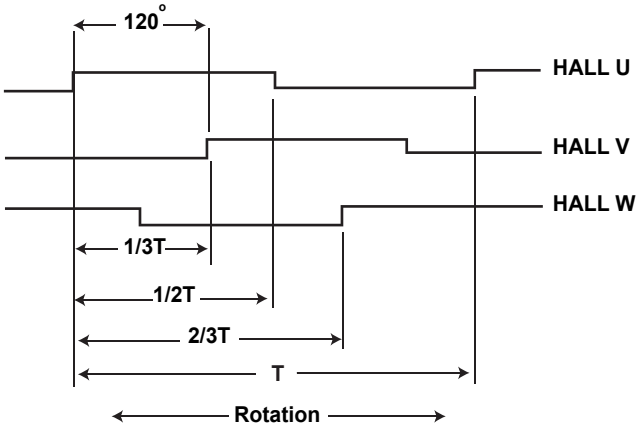
Hall Sensor Electrical Data

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 µs Max. 1.5 µs
Fall Time	Typ. 0.2 µs Max. 1.5 µs
Response Time	Typ. 4.0 µs Max. 5 µs
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 Wiring Diagram

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

Hall Sensor Output Waveforms



T = Electrical Period

Jan, 11, 07