



EC042B IDEA™ Motor

EC042B IDEA™ Motor Series

The IDEA™ Motor Series integrates a high-torque, precision servo motor and IDEA™ Drive as a single compact unit. The IDEA™ Motor enables distributed control without the use of a costly PLC or external motion controller.

EC042B is offered in 3 motor lengths with continuous torque up to 0.15 Nm.

■ Benefits

- GUI programming interface with RS-485
- Integrated trapezoidal and S-curve trajectory generator with movement profile plotter
- Program execution
- I/O-driven nested prioritized vectored interrupts
- Polled I/O for autonomous real-time control
- Integrated inputs, outputs, and encoder

■ Drive Specifications

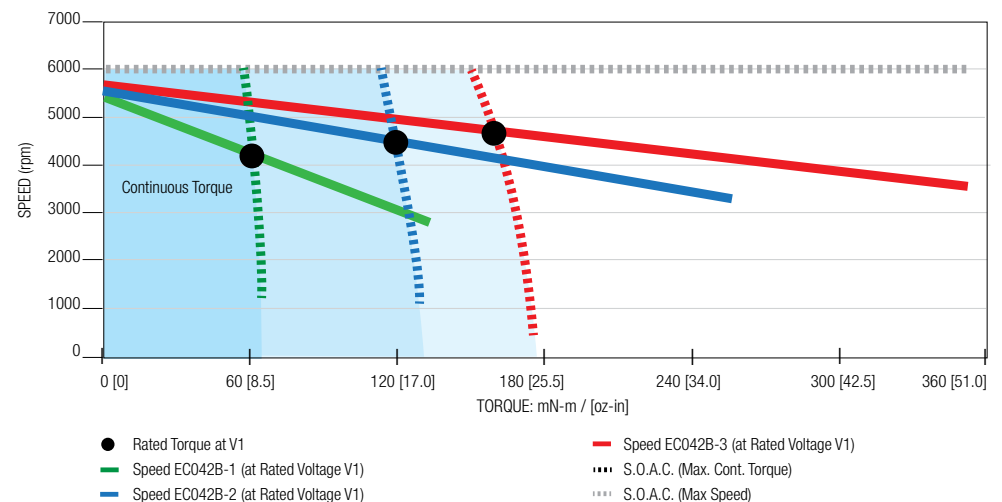
Digital I/O Voltage Range	5-24 VDC
Digital Inputs	4
Digital Outputs	4
Digital Sinking Outputs	200mA (each)
Digital Input Maximum Current	8mA (each)
Maximum Temperature	70°C (at heat sink)
Program Storage Size / Type	85 Kbytes / Flash
Max. Number of Stored Programs	85
Position Counter Range	64bit

■ Motor Characteristics

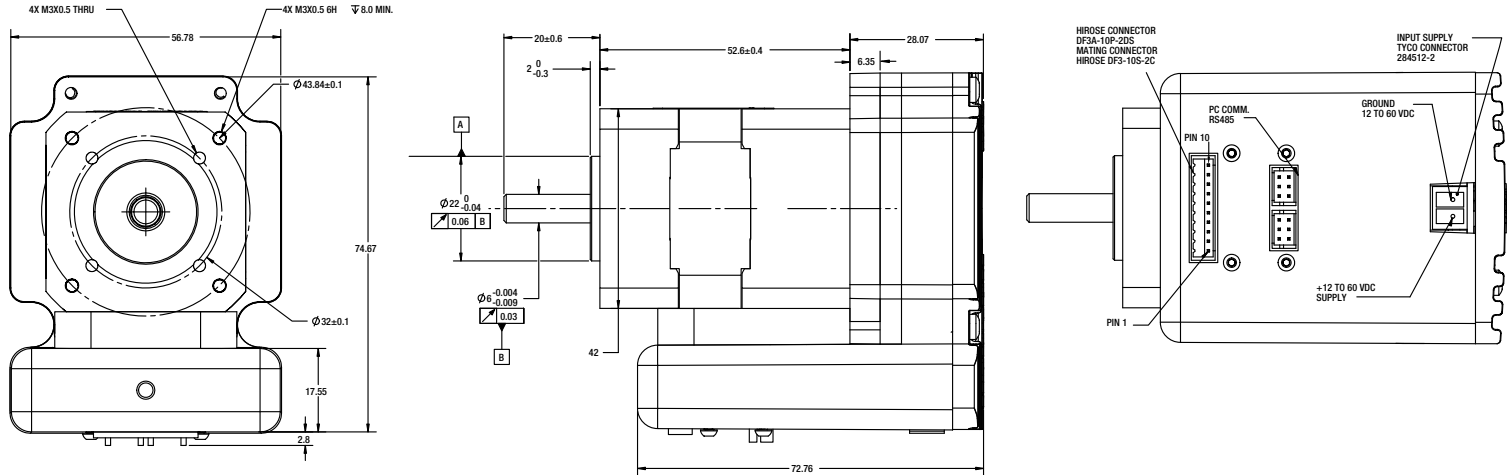
Motor Data	Units	Part No.		
		EC042B-1	EC042B-2	EC042B-3
Length	mm / inch	52.6mm / 2.071"	72.6mm / 2.8"	92.6mm / 3.646"
Rated Power Output ²	P _r W	25	54	70
Input Voltage Range	V _i Vdc	12 - 60		
Rated Voltage ¹	V ₁ Vdc	24		
No Load Speed ¹	ω _{nl} rpm	4825	4856	5182
Rated Speed ¹	ω _r rpm	3930	4022	4460
Rated Torque ¹	Nm	0.06	0.12	0.15
	oz-in	8.2	16.0	21.0
Rated Input Current ¹	I _r A	1.4	2.93	3.4
Continuous Input Power ¹	P _{cs} W	38	70	89
Rotor Inertia	kg-m ²	0.000014	0.000018	0.000021
	oz-in-sec ²	0.0021	0.0025	0.0029
Motor Weight	g	423	623	815
	oz	15	22	29

¹Values specified at Rated Voltage. ²Values specified at Rated Voltage, Speed and Torque.
Drive input current is capable up to 8Arms continuous and 20A peak (1 sec) when within motor capabilities maximum winding temperature at 25°C ambient and without heatsink.

■ Performance Graph



■ Dimensional Drawings (mm)



Optional PLG42S Gearbox

■ Factory Options

Gearbox-ready for PLG42S, PLG52
Lead screws, linear rails and slides

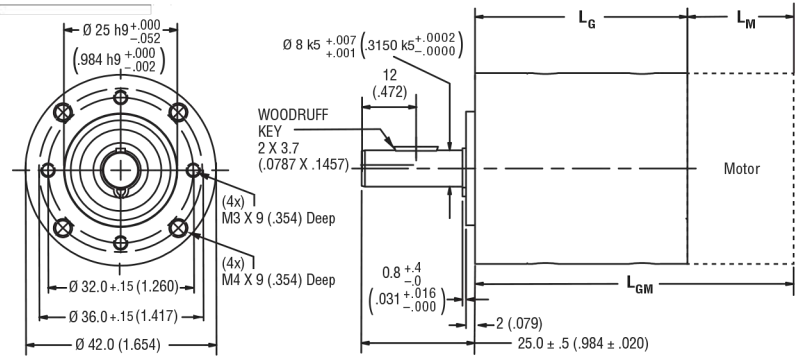
■ Optional Accessories

Part No.	Option	Description
56-1346	Cables	USB Cable (A to mini B), 2 meters (78.74)
56-1348		Power cable, 1 meter (39.37)
56-1352		I/O Cable, 1 meter (39.37)
PLG42S	Gearboxes	Configured to be integrated directly with EC042B IDEA™ Motor
PLG52		
UTR4852	Converter	USB to RS-485 Converter

■ I/O Pin Positions

PIN 1	GROUND I/O SUPPLY (5 to 24 Vdc)	PIN 6	INPUT 4
PIN 2	I/O SUPPLY (5 to 24 Vdc)	PIN 7	OUTPUT 1
PIN 3	INPUT 1	PIN 8	OUTPUT 2
PIN 4	INPUT 2	PIN 9	OUTPUT 3
PIN 5	INPUT 3	PIN 10	OUTPUT 4

■ Dimensions: Optional Gearbox, PLG42S



Add L from EC042B IDEA™ Motor Dimensional Drawing above to determine Lm and LGM motor lengths

■ PLG42S Characteristics

Specifications	Units	4:1	8:1	16:1	25:1	32:1	50:1	64:1	100:1	128:1	156:1	200:1	256:1	400:1	512:1
Maximum Load	Nm	0.7	0.7	1.3	1.3	1.3	1.3	1.3	3	3	3	3	3	3	3
	oz-in	99	99	184	184	184	184	184	425	425	425	425	425	425	425
Weight (Mass)	g	160	160	200	200	200	200	200	250	250	250	250	250	250	250
	oz	5.64	5.64	7.1	7.1	7.1	7.1	7.1	8.8	8.8	8.8	8.8	8.8	8.8	8.8
Length (Lg)	mm	48.2	48.2	60.0	60.0	60.0	60.0	60.0	71.8	71.8	71.8	71.8	71.8	71.8	71.8
	inches	1.90	1.90	2.36	2.36	2.36	2.36	2.36	2.83	2.83	2.83	2.83	2.83	2.83	2.83
Stage	-	1	1	2	2	2	2	2	3	3	3	3	3	3	3
Ratio	-	4 / 1	8 / 1	16 / 1	25 / 1	32 / 1	50 / 1	64 / 1	100 / 1	128 / 1	156.25/1	200 / 1	256 / 1	400 / 1	512 / 1
Efficiency	-	0.90	0.90	0.81	0.81	0.81	0.81	0.81	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Shaft Rotation	-	CW	CW	CW	CW	CW	CW	CW	CW	CW	CW	CW	CW	CW	CW

Notes:

- Maximum load represents gearbox capability only. Continuous load torque capability will vary with gear ratio, motor selection, and operating conditions.
- Shaft rotation is designated while looking at output shaft with motor operating in a clockwise direction. Gearboxes have bi-directional capability.