

EC057B 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. EC057B is offered in 3 motor lengths with continuous torque up to 0.48 Nm.

CANopen

- DS-301 / DS-402 communication
- Connect up to 127 drives on the same network
- Integrated inputs, outputs and encoder

RS485

- GUI programming interface
- 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
- Connect up to 256 drives on the same network
- Integrated inputs, outputs and encoder

Drive Specifications

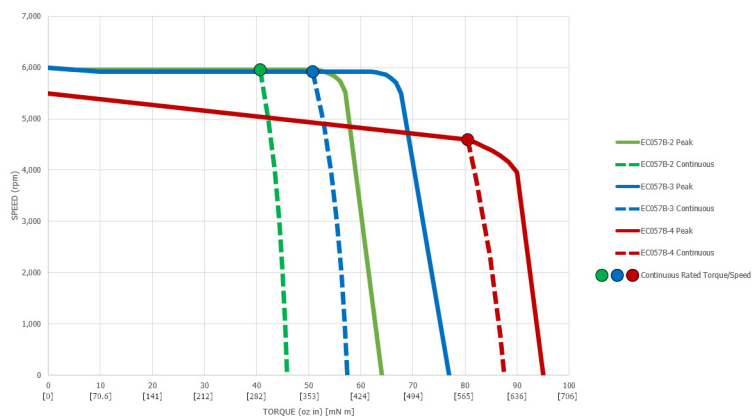
Digital I/O Voltage Range	5-24 VDC
Digital Inputs	4
Digital Outputs	4
Digital Sinking Outputs	200mA (each)
Digital Input Maximum Current	8mA (each)
Maximum Temperature	70°C (at heat sink)
Program Storage Size / Type	85 Kbytes / Flash
Max. Number of Stored Programs	85
Position Counter Range	64bit

Motor Characteristics

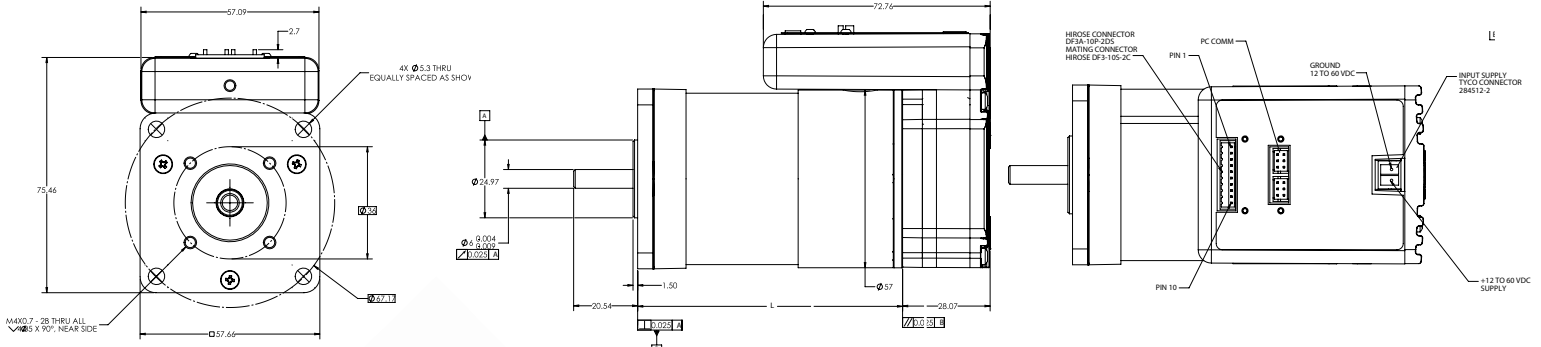
Motor Data	Units	Part No.			
		EC057B-2	EC057B-3	EC057B-4	
Length	LM	mm / inch	113mm / 4.45"	133mm / 5.24"	153mm / 6.03"
Rated Power Output ²	Pr	W	170	195	300
Input Voltage Range	Vi	Vdc	12 - 60		
Rated Voltage ¹	V1	Vdc	48		
No Load Speed ¹	ω_{nl}	rpm	6,000		
Rated Speed ¹	ω_r	rpm	5,900		
Rated Torque ¹	Tr	Nm	0.27	0.31	0.48
		oz-in	39	44	67
Rated Input Current ¹	Ir	A	5.0	5.5	7.0
Continuous Input Power ¹	Pcs	W	240	265	370
Rotor Inertia	Jr	kg-m ²	0.000012	0.000018	0.000023
		oz-in-sec ²	0.0017	0.0025	0.0032
Motor Weight	Wm	g	860	1100	1380
		oz	30	39	49

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)



Motor Data	Units	Part No.			
		EC057B-2	EC057B-3	EC057B-4	
Length	L	mm / inch	113mm / 4.45"	133mm / 5.24"	153mm / 6.03"

■ Factory Options

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

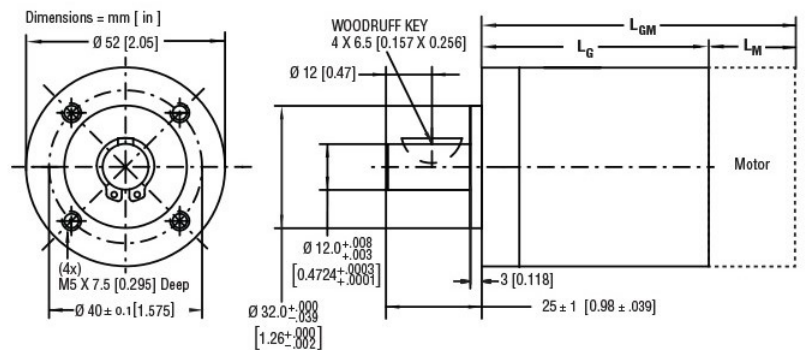
■ Optional Accessories

Part No.	Option	Description
PLG52	Gearbox	Configured to be integrated directly with EC057B IDEA Motor
56-1348	Cables	Power cable, 1 meter (39.37")
56-1352		I/O Cable, 1 meter (39.37")
UTR4852	Converter	USB to RS485 Converter, use with 56-1346 and 56-1536-4
56-1346	Cables	USB Cable (A to mini B), 2 meters (78.74")
56-1536-4		RS485 Cable, 1 meter (39.37")
52-870	Converters	USB to CANopen Converter, use with 56-2322
52-879		USB to RS485 Converter, use with 56-2322
56-2322	Cable	USB to CANopen/RS485 Cable, 2 meters (78.74") Use with 52-870 or 52-879

■ 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, PLG52



Add L from EC057B IDEA Motor Dimensional Drawing above to determine L_M and L_{GM} motor lengths

■ PLG52 Characteristics

Gear Data	Units	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52	PLG52
		4.5:1	6.25:1	15:1	20.2:1	28.1:1	36:1	50:1	91.1:1	126.5:1	162:1	225:1	288:1	400:1
Maximum Load	Nm	1.2				8								24
	oz-in	170				1133								3399
Weight (Mass)	g	560				720								880
	oz	19.8				25.4								31.0
Length (L)	mm	50.0				65.5								80.5
	inches	1.97				2.58								3.17
Stages	—	1				2								3
Efficiency	—	0.90				0.81								0.73
Shaft Rotation	—													CW