

DCM Series Brushed DC Servo Motors



Features:

- * Smooth operation, High precision, High reliability
- * Extremely Low cost
- * Mounting compatible with PITTMAN 14xxx motors
- * Encoder resolution optional (1000 line or 500 line)
- * Position error adjustable: down to one pulse
- * Mounting dimensions of DCM57xxx brushed servo motors are the same as those of NEMA 23 stepping motors

Introduction

The DCM50xxx/57xxx series motors are permanent magnet brushed DC servo motors. The motors are high quality and cost-effective, making them ideal for cost sensitive applications. All of them come with an attached encoder which provides position feedback to controllers. Mounting dimensions of DCM57xxx brush servo motors are the same as those of NEMA23 stepping motors.

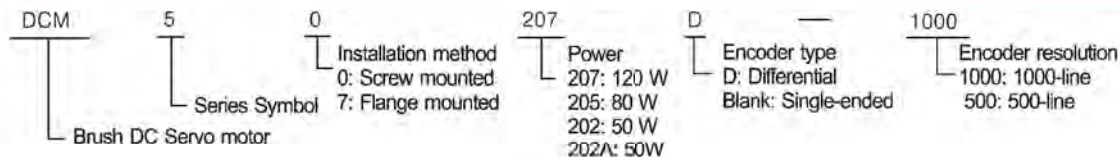
Applications

The DCM5xxxx series brushed DC servo motors are widely used in inkjet printers, medical equipment, measuring devices, engraving machines, electronic packing equipment, and so on. Particularly suited to the applications requiring minimal vibration, super-low noise, high precision and high speed.

Electrical Specifications

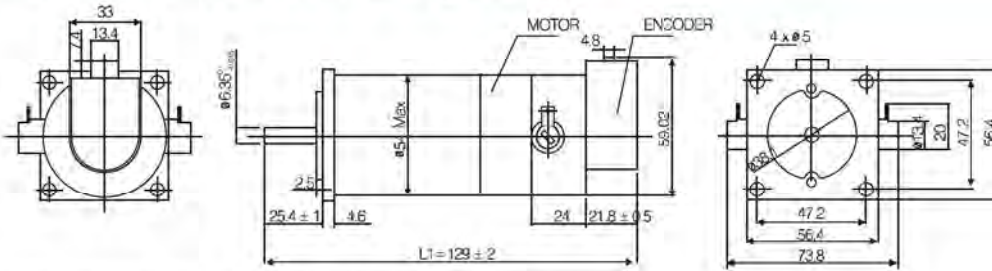
No.	Parameters	Symbol	Units	DCM50202A	DCM57202	DCM5x205	DCM5x207
1	Continuous Torque (Max)	T_C	N·m	0.15	0.15	0.25	0.35
2	Peak Torque (Stall)	T_{PK}	N·m	0.76	0.76	1.59	2.90
3	No-load Speed	S_{NL}	rpm	$4600 \pm 10\%$	$4600 \pm 10\%$	$4000 \pm 10\%$	$3600 \pm 10\%$
4	Rated Speed	S_R	rpm	3500	3500	3400	2900
5	Rotor Inertia	J_R	kg·m ²	1.62×10^{-5}	1.62×10^{-5}	3.11×10^{-5}	4.73×10^{-5}
6	Winding Temperature	θ_{MAX}	°C	155 (Max)	155 (Max)	155 (Max)	155 (Max)
7	Thermal Impedance	R_{TH}	°C/watt	9.00	9.00	7.30	4.98
8	Weight (Plus Encoder)	W_M	g	694	754	1182	1338
9	Length (Plus Encoder)	L1	mm	129 ± 2	129 ± 2	161 ± 2	196 ± 2
10	Rated Voltage	E	V	24	24	24	30.3
11	Rated Current	I	A	1.79	1.79	2.95	3.94
12	Torque Constant	K_T	N·m/A	48×10^{-3}	48×10^{-3}	52×10^{-3}	80×10^{-3}
13	Resistance	R_T	Ω	2.52	2.52	0.8	0.90
14	No-load Current	I_{NL}	A	0.45	0.45	0.5	0.45
15	Peak Current (Stall)	I_P	A	13.9	13.9	21.6	32.6
16	Encoder Resolution	-	steps/rev.	500/1000	500/1000	500/1000	500/1000

Part Number

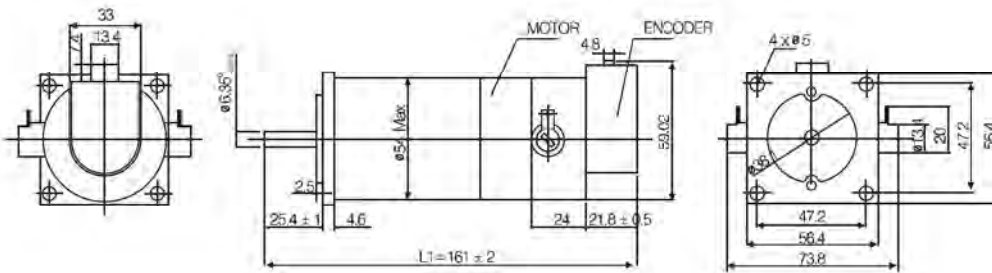


Mechanical Specifications (Units: mm 1 inch = 25.4 mm)

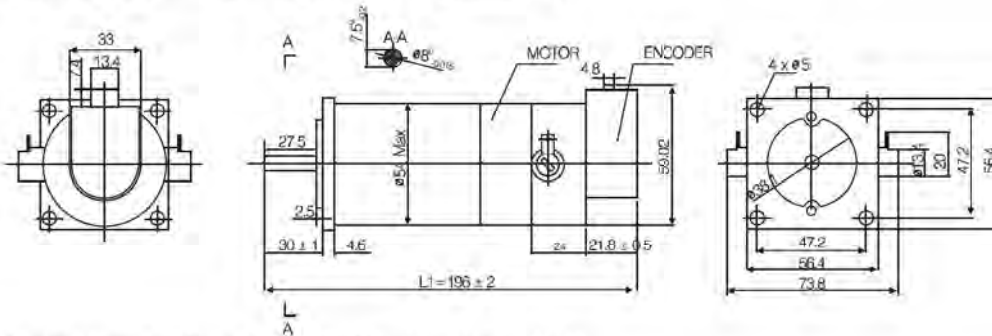
Mechanical specifications of the DCM57202 motor (plus encoder):



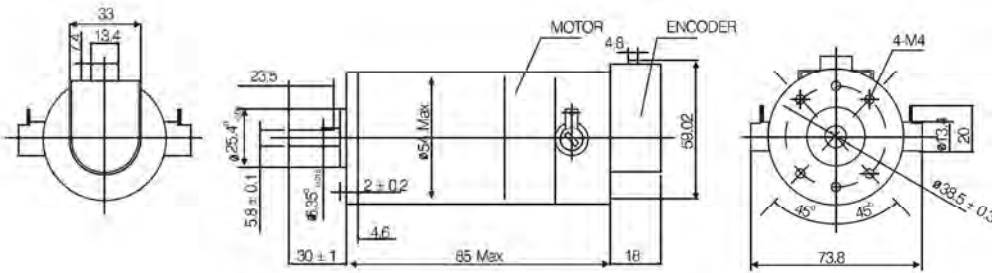
Mechanical specifications of the DCM57205 motor (plus encoder):



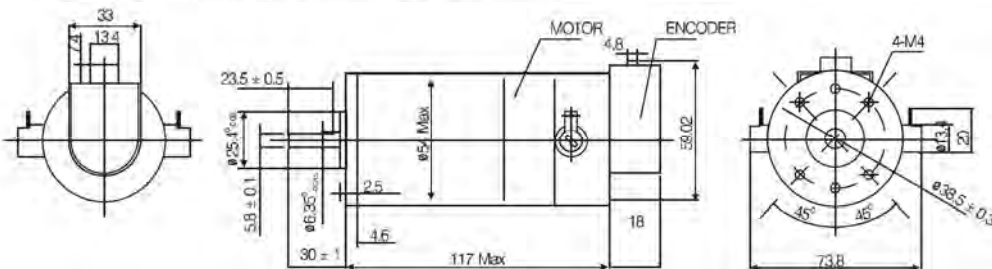
Mechanical specifications of the DCM57207 motor (plus encoder):



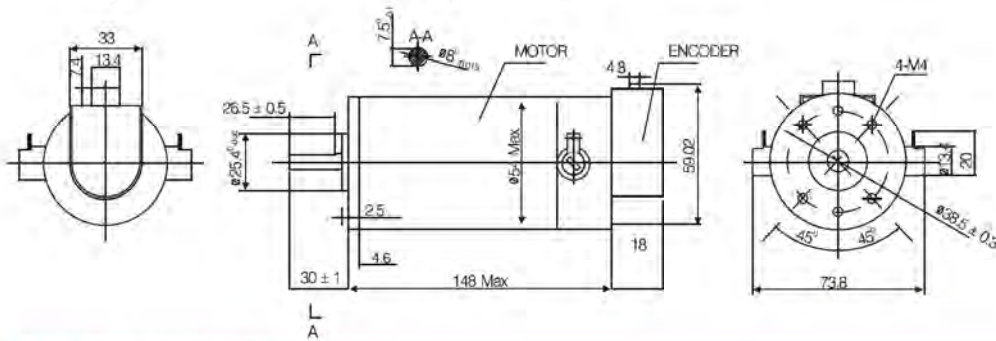
Mechanical specifications of the DCM50202A motor (plus encoder):



Mechanical specifications of the DCM50205 motor (plus encoder):



Mechanical specifications of the DCM50207 motor (plus encoder):



Encoder Connections

Connection Table for Single-ended Encoder			Connection Table for Differential Encoder		
Pin	Color	Connection (DCS303, DCS810S / DCS810)	Pin	Color	Connection (DCS810)
1	Blue	Channel B (EB / EB+)	1	Black	Channel A+ (EA+)
2	Yellow	Channel A (EA / EA+)	2	Blue	Channel A- (EA-)
3	Red	VCC (E+5V / E+5V)	3	Yellow	Channel B+ (EB+)
4	Black	Ground (EGND / EGND)	4	Green	Channel B- (EB-)
5	Green	Index / NC (NC / NC)	5	Red	VCC (E+5V)
			6	White	Ground (EGND)

Note: The DCM5xxx-1000 motor includes an attached 1000 line encoder and the DCM5xxx-500 motor includes an attached 500 line encoder. The Z (Index) signal is NOT offered by standard models, please contact Leadshine if an encoder with Z (Index) signal is required.

Order Information

- DCM50xxx-1000** is a screw mounted motor including a 1000 line encoder (single-ended output), such as the DCM50202A-1000, DCM50205-1000, DCM50207-1000.
- DCM50xxx-500** is a screw mounted motor including a single-ended 500 line encoder (single-ended output), such as the DCM50202A-500, the DCM50205-500 and the DCM50207-500.
- DCM57xxx-1000** is a flange mounted motor including a single-ended 1000 line encoder, such as the DCM57202-1000, the DCM57205-1000 and the DCM57207-1000.
- DCM57xxx-500** is a flange mounted motor including a single-ended 500 line encoder, such as the DCM57202-500, the DCM57205-500 and the DCM57207-500.
- DCM50xxxD-1000** is a screw mounted motor including a differential 1000 line encoder, such as the DCM50202AD-1000, the DCM50205D-1000 and the DCM50207D-1000.
- DCM50xxxD-500** is a screw mounted motor including a differential 500 line encoder, such as the DCM50202AD-500, the DCM50205D-500 and the DCM50207D-500.
- DCM57xxxD-1000** is a flange mounted motor including a differential 1000 line encoder, such as the DCM57202D-1000 , the DCM57205D-1000 and the DCM57207D-1000.
- DCM57xxxD-500** is a flange mounted motor including a differential 500 line encoder, such as the DCM57202D-500, the DCM57205D-500 and the DCM57207D-500.

- ACM Series
- BLM Series
- DCS Series
- DCS303
- DCS810
- DCS810E
- DCM Series