

05

DCM Series Brushed Servo Motors Low-medium Voltage (24, 30.3 VDC)

The DCM series motors are permanent magnet DC brushed servo motors. All of them come with attached encoder which provides position feedback to controllers. These motors are widely used in inkjet printers, medical equipments, measuring devices, etc, which require smooth operation, super-low noise, high precision and high reliability.



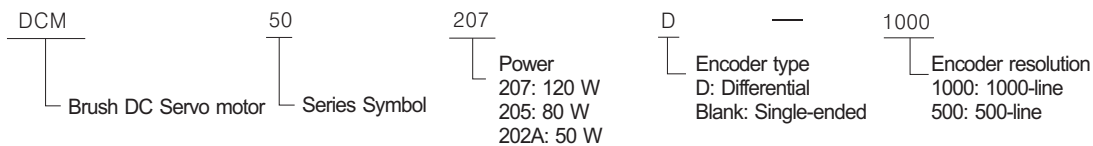
Diameter ϕ 54mm



Rated Power 50 W, 80 W, 120 W

5.1

DCM Series Part Number



5.2

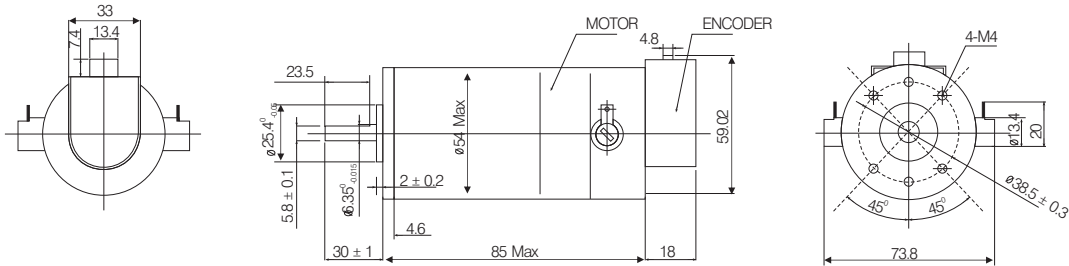
DCM Series Electrical Specifications

No.	Parameters	Symbol	Units	DCM50202A	DCM50205	DCM50207
1	Continuous Torque (Max)	T_C	N·m	0.15	0.25	0.35
2	Peak Torque (Stall)	T_{PK}	N·m	0.76	1.59	2.90
3	No-load Speed	S_{NL}	rpm	$4600 \pm 10\%$	$4000 \pm 10\%$	$3600 \pm 10\%$
4	Rated Speed	S_R	rpm	3500	3400	2900
5	Rotor Inertia	J_M	kg·m ²	1.62×10^{-5}	3.11×10^{-5}	4.73×10^{-5}
6	Winding Temperature	θ_{MAX}	°C	155 (Max)	155 (Max)	155 (Max)
7	Thermal Impedance	R_{TH}	°C/watt	9.00	7.30	4.98
8	Weight (Plus Encoder)	W_M	g	694	1182	1338
9	Length (Plus Encoder)	L1	mm	129 ± 2	161 ± 2	196 ± 2
10	Rated Voltage	E	V	24	24	30.3
11	Rated Current	I	A	1.79	2.95	3.94
12	Torque Constant	K_T	N·m/A	48×10^{-3}	52×10^{-3}	80×10^{-3}
13	Resistance	R_T	Ω	2.52	0.8	0.90
14	No-load Current	I_{NL}	A	0.45	0.5	0.45
15	Peak Current (Stall)	I_P	A	13.9	21.6	32.6
16	Encoder Resolution	-	steps/rev.	500/1000	500/1000	500/1000

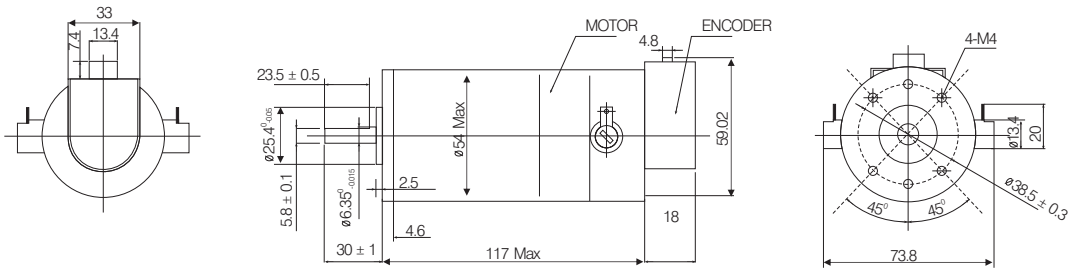
5.3 DCM Series Mechanical Specifications

Unit: mm 1 inch = 25.4 mm

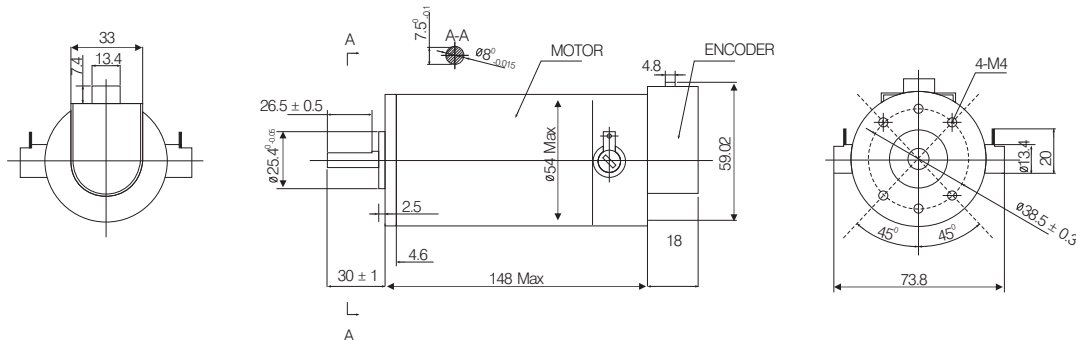
Mechanical specification of the DCM50202A motor (plus encoder):



Mechanical specification of the DCM50205 motor (plus encoder):



Mechanical specification of the DCM50207 motor (plus encoder):



5.4 DCM Series Encoder Cables

Encoder Connections

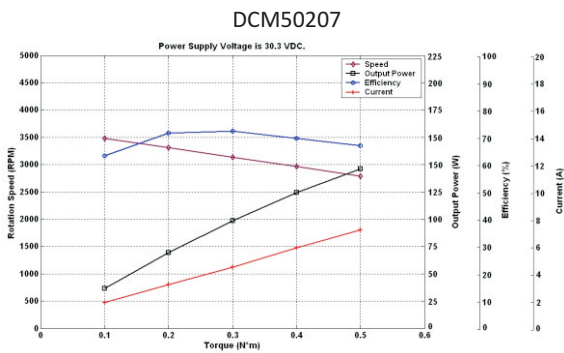
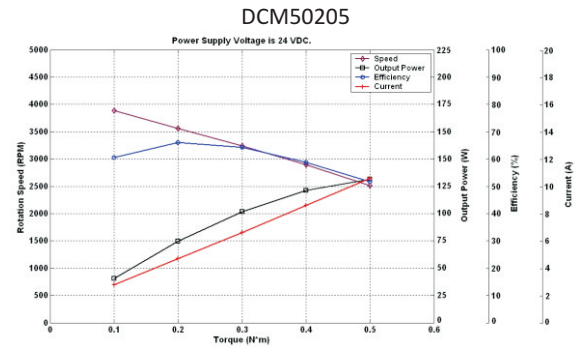
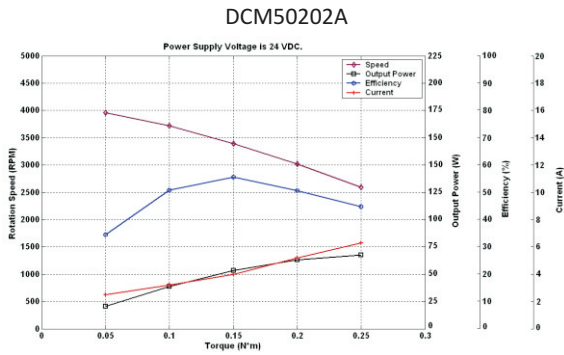
Connection Table for Single-ended Encoder			Connection Table for Differential Encoder		
Pin	Color	Description	Pin	Color	Description
1	Blue	Channel B	1	Black	Channel A+
2	Yellow	Channel A	2	Blue	Channel A-
3	Red	VCC	3	Yellow	Channel B+
4	Black	Ground	4	Green	Channel B-
5	Green	Index / NC	5	Red	VCC
			6	White	Ground

Note: The DCM5xxx-1000 motor includes an attached 1000-line encoder, and the DCM5xxx-500 motor includes an attached 500-line encoder. Z (Index) signal is **NOT** offered by standard models, please specify the requirement when placing an order if you need.

5.5 DCM Series Speed-Torque Curves

Matching Drives

DCS303	DCS810 / DCS810S
90 W	800 W



5.6 DCM Series Order Information

Motors	Models	Descriptions
DCM Series Motors	DCM50xxx-1000	Screw mounted brush DC servo motor with a 1000-line incremental encoder (A, B phase single-ended).
	DCM50xxx-500	Screw mounted brush DC servo motor with a 500-line incremental encoder (A, B phase single-ended).
	DCM50xxxD-1000	Screw mounted brush DC servo motor with a 1000-line incremental encoder (A, B phase differential).
	DCM50xxxD-500	Screw mounted brush DC servo motor with a 500-line incremental encoder (A, B phase differential).