

# 22mm Brushless DC -With Internal Drive



## Specifications:

### General Specifications

Number of phases	3
Number of poles	2
Operating temperature range	-30°C ~ 85°C
Commutation	Electrically commutated
Bearing type	Shielded ball bearings
Housing material	Black anodized aluminum
Magnet material	Sintered Nd-Fe-B
Direction of rotation	Reversible
Insulation Class	Class B (130°C max.)
Dielectric strength	500 VDC for one minute
Insulation resistance	100Mohms min., 500VDC

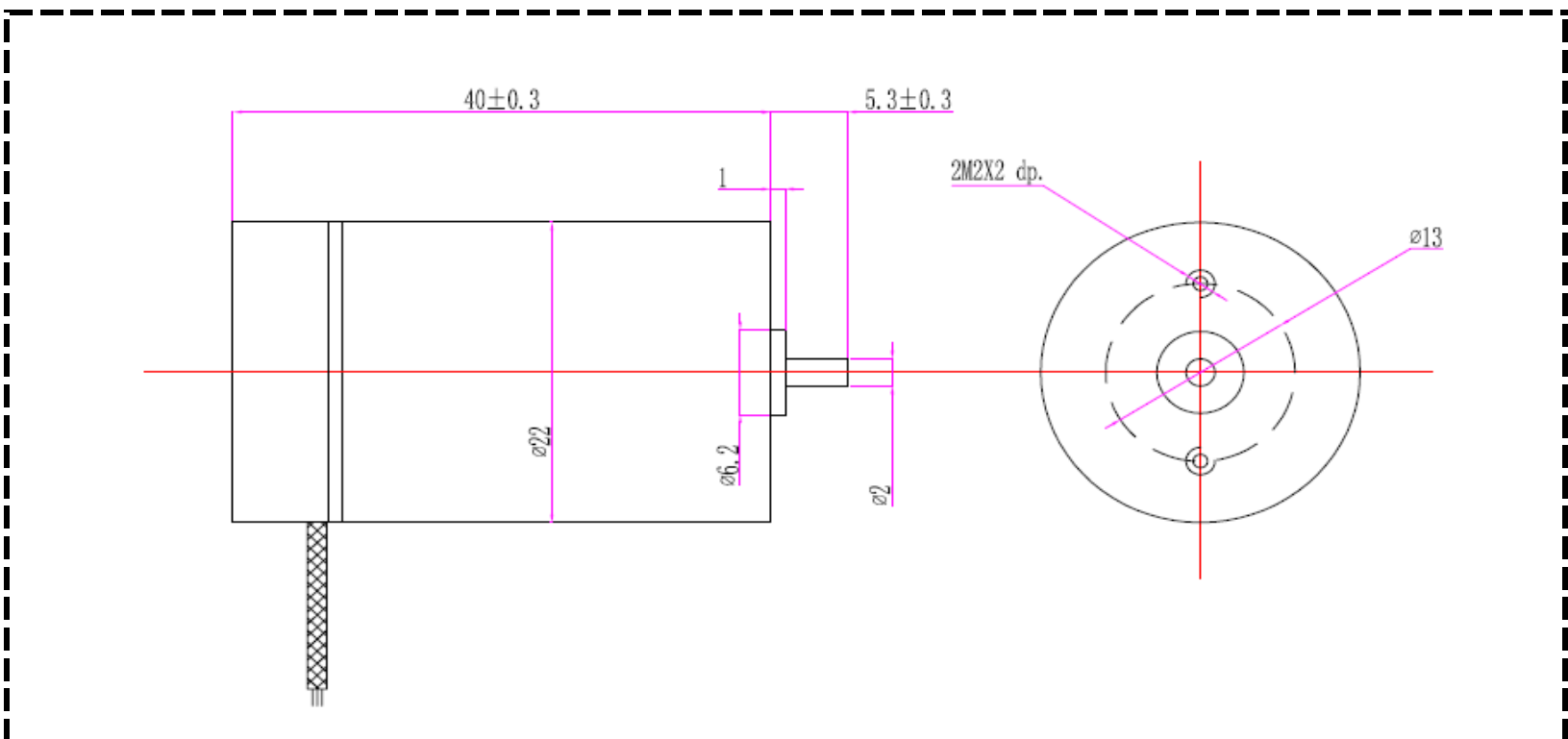
Model		DM2240-06-000-	DM2240-06-000-	DM2240-06-001-	DM2240-06-008--	DM2240-06-001-
		00-1	11-1	03-1	12-1	02-1
Nominal Voltage	V	6	6	6	6	9
Rated Speed	RPM	966	1372	3777	12181	2616
Rated Current	A	0.09	0.12	0.37	1.64	0.11
Rated Torque	mNm	1.24	1.17	2.31	4.54	1.66
Rated Efficiency	%	28	28	43	60	48
Phase Resistance	R	43.7	32.6	7.1	1	32
Output Power	W	0.13	0.17	0.99	8.09	0.52
Max. Efficiency	%	28	28	43	60	48
No-Load Speed	RPM	2,050	2,900	5960	15,890	3,880
No-Load Current	A	0.03	0.04	0.1	0.31	0.027
Stall Torque	mNm	2.34	2.23	6.32	19.46	5.09
Friction Torque	mNm	0.66	0.62	0.85	1.06	0.54
Back EMF Constant	mV/RPM	2.29	1.62	0.89	0.36	2.10
Torque Constant	mNm/A	21.84	15.46	8.48	3.42	20.02
Slope of Speed vs. Torque Curve	RPM/mNm	874.70	1,301.93	943.77	816.68	762.11
Mechanical time Constant	mS	18.14	26.99	19.57	16.93	15.80
Rotor Inertia	g-cm <sup>2</sup>	1.98	1.98	1.98	1.98	1.98
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	11.84	11.25	31.89	98.27	25.71
Sensor		Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor
Driver Recommendation		DR2401IE	DR2401IE	DR2401IE	DR2401IE	DR2401IE
Weight	g	50	50	50	50	50
Motor Body Length	"L"	40	40	40	40	40

Model		DM2240-12-001-	DM2240-12-001-	DM2240-12-003-	DM2240-12-014-	DM2240-12-022-
		02-1	04-1	07-1	16-1	19-1
Nominal Voltage	V	12	12	12	12	12
Rated Speed	RPM	2471	4265	7073	16673	19958
Rated Current	A	0.21	0.32	0.45	1.27	2.14
Rated Torque	mNm	2.41	3.16	3.32	5.45	7.33
Rated Efficiency	%	29	40	48	63	60
Phase Resistance	R	36	18.2	10.5	2.3	1.5
Output Power	W	0.62	1.47	2.8	14.36	21.66
Max. Efficiency	%	29	40	48	63	60
No-Load Speed	RPM	5,100	7,080	10500	21,100	25,900
No-Load Current	A	0.07	0.09	0.11	0.22	0.4
Stall Torque	mNm	4.67	7.96	10.19	26.00	31.94
Friction Torque	mNm	1.24	1.26	1.08	1.14	1.68
Back EMF Constant	mV/RPM	1.86	1.46	1.03	0.54	0.44
Torque Constant	mNm/A	17.75	13.98	9.86	5.20	4.20

<b>Slope of Speed vs. Torque Curve</b>	RPM/mNm	1091.08	889.77	1,030.71	811.67	810.79
<b>Mechanical time Constant</b>	mS	22.62	18.45	21.37	16.83	16.81
<b>Rotor Inertia</b>	g-cm <sup>2</sup>	1.98	1.98	1.98	1.98	1.98
<b>Max. Angular Acceleration</b>	10 <sup>3</sup> rad/s <sup>2</sup>	23.61	40.19	51.45	131.29	161.33
<b>Sensor</b>		Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor
<b>Driver Recommendation</b>		DR2401IE	DR2401IE	DR2401IE	DR2401IE	DR2401IE
<b>Weight</b>	g	50	50	50	50	50
<b>Motor Body Length</b>	"L"	40	40	40	40	40

Model		DM2240-24-004-	DM2240-24-005-	DM2240-24-006-	DM2240-24-014-	DM2240-24-028-
		07-I	09-I	09-I	17-I	21-I
<b>Nominal Voltage</b>	V	24	24	24	24	24
<b>Rated Speed</b>	RPM	7582	9004	9758	17626	21845
<b>Rated Current</b>	A	0.30	0.36	0.52	0.69	1.04
<b>Rated Torque</b>	mNm	4.40	4.71	5.57	5.36	7.31
<b>Rated Efficiency</b>	%	50	53	47	60	67
<b>Phase Resistance</b>	R	29.3	22.6	18.2	9.3	4.8
<b>Output Power</b>	W	4.11	5.45	6.43	13.96	28.11
<b>Max. Efficiency</b>	%	50	53	47	60	67
<b>No-Load Speed</b>	RPM	10,920	12,600	14580	22,900	26,700
<b>No-Load Current</b>	A	0.07	0.08	0.13	0.13	0.16
<b>Stall Torque</b>	mNm	14.38	16.52	16.84	23.29	40.22
<b>Friction Torque</b>	mNm	1.34	1.35	1.84	1.24	1.33
<b>Back EMF Constant</b>	mV/RPM	2.01	1.76	1.48	1.00	0.87
<b>Torque Constant</b>	mNm/A	19.19	16.82	14.17	9.50	8.31
<b>Slope of Speed vs. Torque Curve</b>	RPM/mNm	759.47	762.93	865.65	983.23	663.93
<b>Mechanical time Constant</b>	mS	15.75	15.82	17.95	20.39	13.77
<b>Rotor Inertia</b>	g-cm <sup>2</sup>	1.98	1.98	1.98	1.98	1.98
<b>Max. Angular Acceleration</b>	10 <sup>3</sup> rad/s <sup>2</sup>	72.62	83.41	85.07	117.63	203.11
<b>Sensor</b>		Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor
<b>Driver Recommendation</b>		DR2401IE	DR2401IE	DR2401IE	DR2401IE	DR2401IE
<b>Weight</b>	g	50	50	50	50	50
<b>Motor Body Length</b>	"L"	40	40	40	40	40

## Outline Drawing



# Performance Curve

