

# 14mm Brushless DC Motor



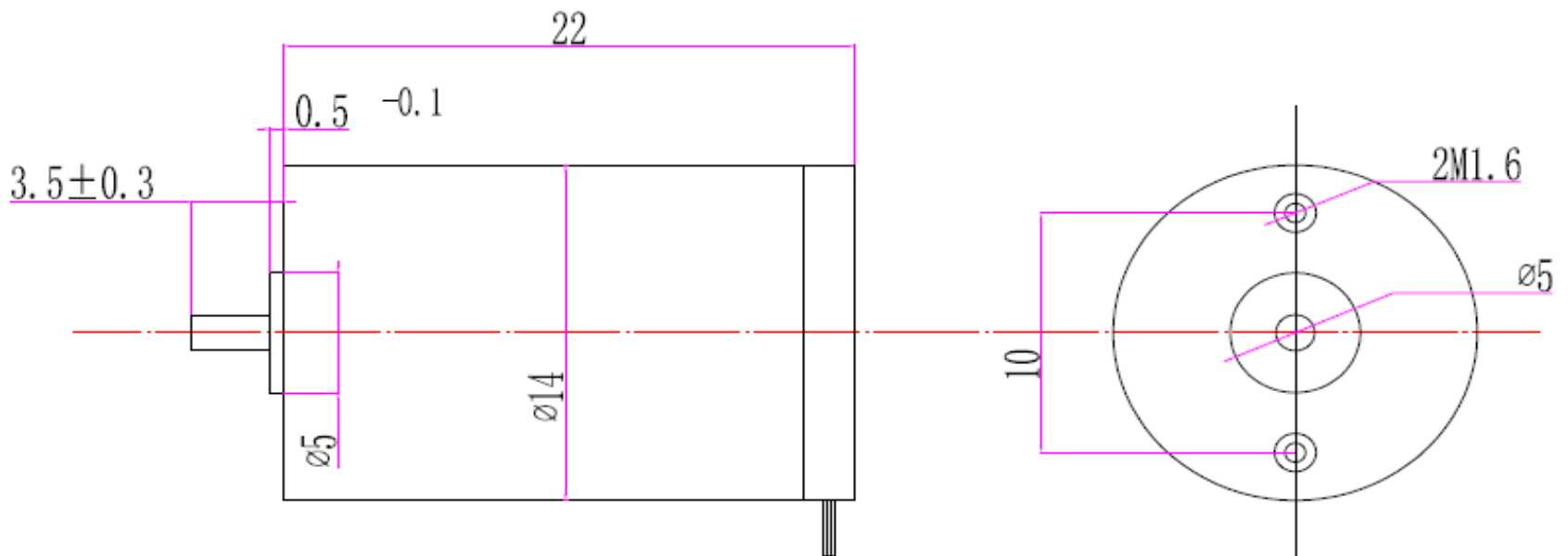
1422

## 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		DM1422-03	DM1422-08			
Nominal Voltage	V	3	8			
Rated Speed	RPM	233	2622			
Rated Current	A	0.01	0.04			
Rated Torque	mNm	0.21	0.42			
Rated Efficiency	%	18	42			
Phase Resistance	W	165	99			
Output Power	W	0.01	0.12			
Max. Efficiency	%	18	42			
No-Load Speed	RPM	780	4200			
No-Load Current	A	0.006	0.01			
Stall Torque	mNm	0.3	1.13			
Friction Torque	mNm	0.15	0.16			
Back EMF Constant	mV/RPM	2.58	1.67			
Torque Constant	mNm/A	24.61	15.94			
Slope of Speed vs. Torque Curve	RPM/mNm	2602.01	3721.57			
Mechanical time Constant	mS	3.27	4.68			
Rotor Inertia	g-cm <sup>2</sup>	0.12	0.12			
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	24.98	94.05			
Sensor		Sensorless	Sensorless			
Driver Recommendation		DR1802	DR1802			
Weight	g	18	18			
Motor Body Length	"L"	22	22			

## Outline Drawing



# 14mm Brushless DC Motor



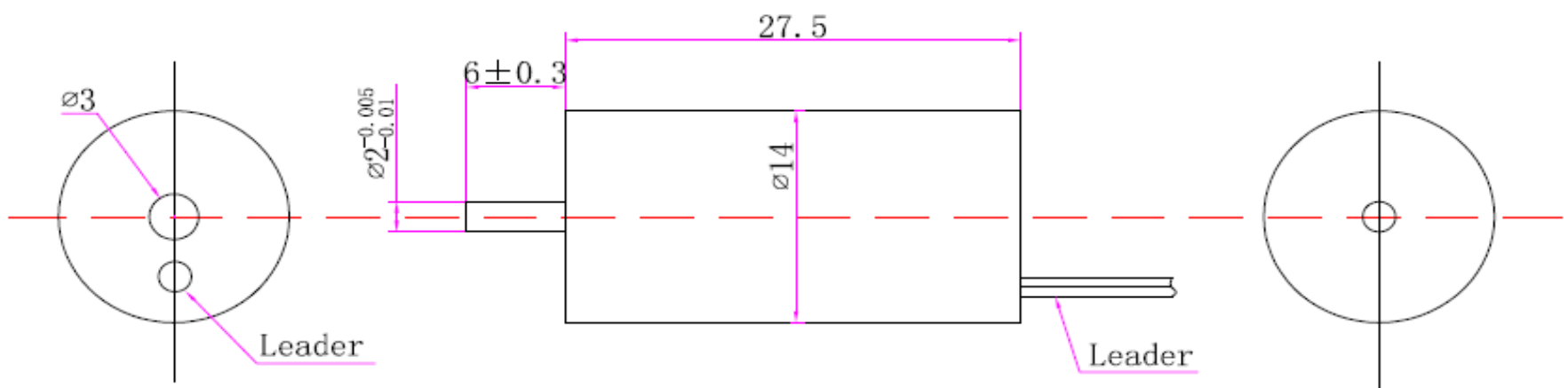
1428

## General Specifications

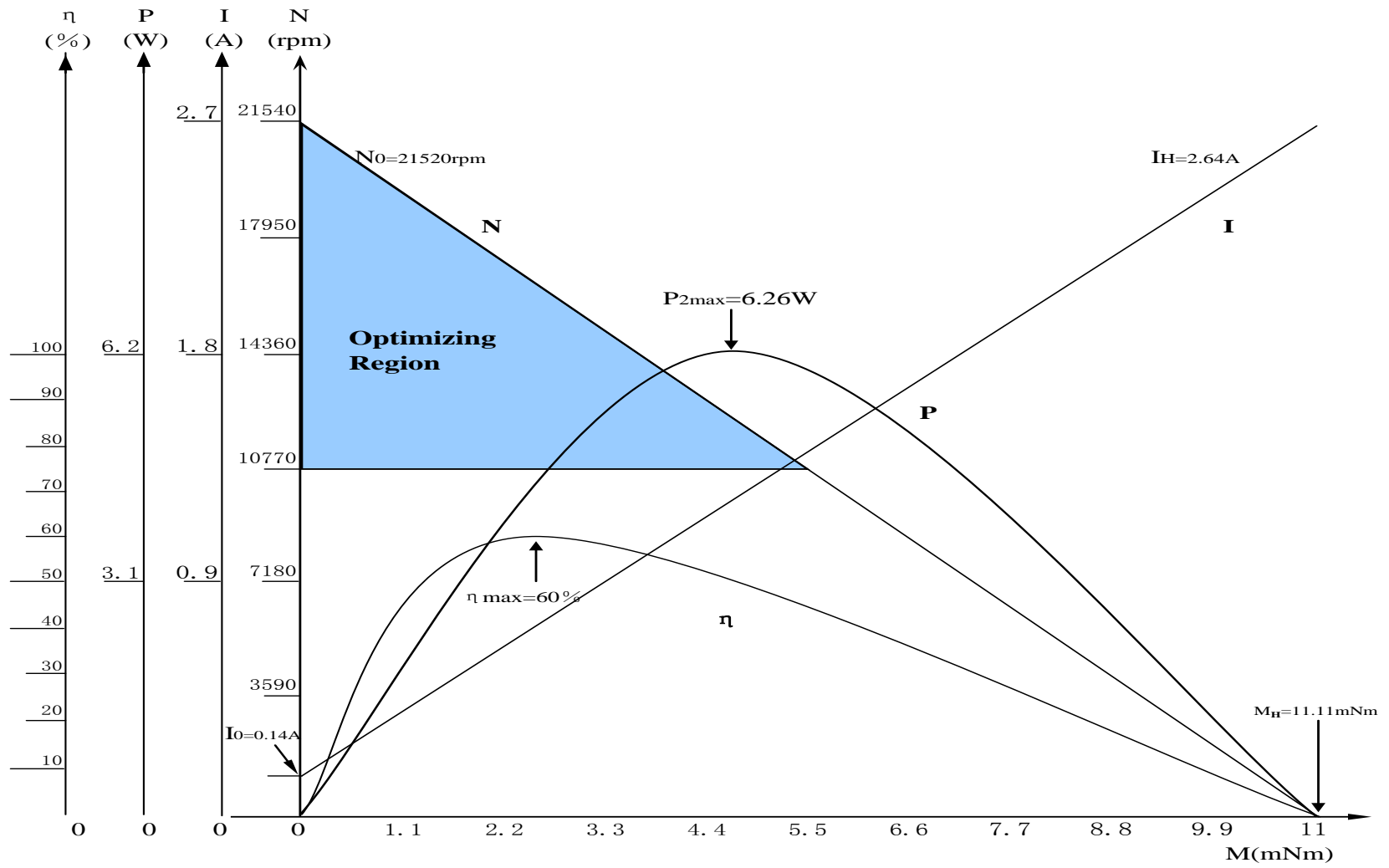
Number of phases	3
Number of poles	2
Operating temperature range	-30°C ~ 85°C
Commutation	Electrically commutated
Bearing type	Shielded ball bearings
Housing material	Black anodized aluminum
Magnet material	Sintered Nd-Fe-B
Direction of rotation	Reversible
Insulation Class	Class B (130°C max.)
Dielectric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

Model		DM1428-10				
Nominal Voltage	V	10				
Rated Speed	RPM	16562				
Rated Current	A	0.75				
Rated Torque	mNm	2.56				
Rated Efficiency	%	60				
Phase Resistance	W	3.6				
Output Power	W	6.26				
Max. Efficiency	%	60				
No-Load Speed	RPM	21520				
No-Load Current	A	0.14				
Stall Torque	mNm	11.11				
Friction Torque	mNm	0.59				
Back EMF Constant	mV/RPM	0.44				
Torque Constant	mNm/A	4.21				
Slope of Speed vs. Torque Curve	RPM/mNm	1936.13				
Mechanical time Constant	mS	4.46				
Rotor Inertia	g-cm <sup>2</sup>	0.22				
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	505.23				
Sensor		Sensorless				
Driver Recommendation		DR1802				
Weight	g	22				
Motor Body Length	"L"	28				

## Outline Drawing



# Performance Curve



# 14mm Brushless DC Motor



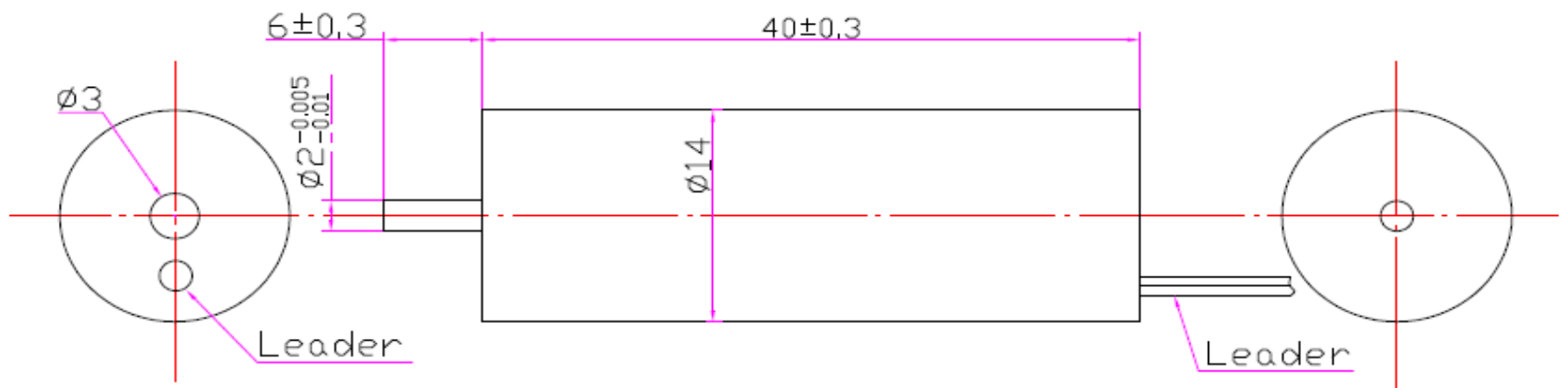
1440

## 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		DM1440-06-004	DM1440-06-012			
Nominal Voltage	V	6	6			
Rated Speed	RPM	9773	18194			
Rated Current	A	0.51	1.17			
Rated Torque	mNm	2.9	4.01			
Rated Efficiency	%	59	66			
Phase Resistance	W	5.5	1.9			
Output Power	W	4.06	12.23			
Max. Efficiency	%	59	66			
No-Load Speed	RPM	12880	22560			
No-Load Current	A	0.1	0.19			
Stall Torque	mNm	12.04	20.7			
Friction Torque	mNm	0.7	0.78			
Back EMF Constant	mV/RPM	0.73	0.43			
Torque Constant	mNm/A	7.01	4.08			
Slope of Speed vs. Torque Curve	RPM/mNm	1069.94	1089.92			
Mechanical time Constant	mS	4.48	4.57			
Rotor Inertia	g-cm <sup>2</sup>	0.4	0.4			
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	300.95	517.47			
Sensor		Sensorless	Sensorless			
Driver Recommendation		DR1802&DR2404	DR1802&DR2404			
Weight	g	44.5	44.5			
Motor Body Length	"L"	32	32			

## Outline Drawing



# Performance Curve

