

D Series Motors

Frameless Brushless DC Motors

Nidec
MOTION & DRIVES

Lightweight, frameless motors delivering low inertia, high efficiency and high torque density in compact sizes for applications in the fields of robotics, automation, medical, industrial, semiconductors and more.

Motor Specifications

Torque Range (Continuous): 0.145 Nm to 2.97 Nm

Torque Range (Peak): 0.457 Nm to 9.68 Nm

Power: 73 W to 498 W

Warranty: One-year limited warranty

Product Overview

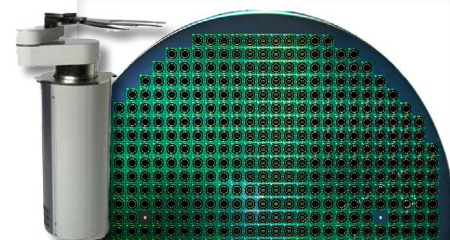
What makes frameless brushless DC motors so unique, is their versatility in a wide range of applications. For instance, frameless BLDC motors fit more easily into a vast array of smaller machines that require precision and higher torque density. Additionally, they're increasingly used to replace heavier, less efficient hydraulic components in machines, making them cost less to operate and maintain, with the added benefit of being more environmentally friendly. Whatever your application requirements are, Nidec Motion and Drives has a generous selection of standard and custom BLDC frameless motor solutions to choose from.

Product Features

- High torque to inertia ratio for quick responsiveness and precision control
- High torque density in a space-saving package
- Large rotor interior diameter for convenient cable routing
- Standard 200 mm lead lengths
- Low cogging torque for a smooth, steady operation
- Machine wound for high reliability with bondable magnet wire for a compact, self-supporting coil
- Constructed with corrosion-inhibitive materials
- Supported by rigorous testing for performance and reliability
- Manufactured by the world's most comprehensive electric motor manufacturer
- On-hand Inventory availability and short lead times
- Class F insulation
- UL agency recognition
- RoHS compliant
- **Custom Designs Available**



Surgical Robots



Semiconductor Wafer-Handling



Manufacturing Automation



Autonomous Guided Vehicles



Scanners and Printers

Collaborative Robots



Machining Equipment

Nidec
NIDEC MOTOR CORPORATION

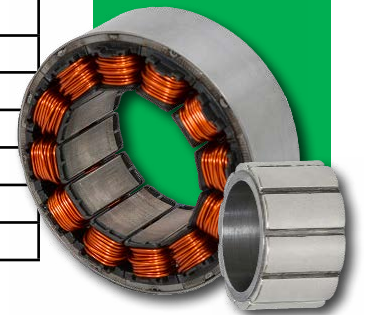
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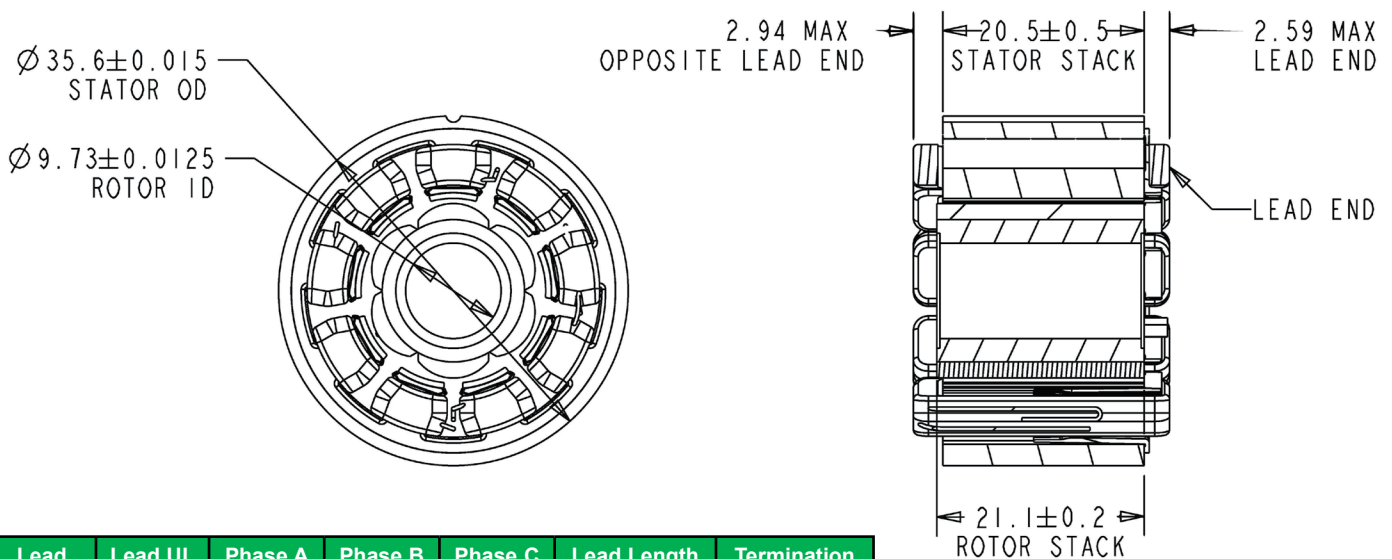
Specifications

Part Number	D35	D52	D64	D77	D100
Standard bus voltage (Vdc)	48	48	48	48	48
Standard stack heights (mm)	20.5	18.5	25.5	28	32
Data Below is Based on Standard Stack Height at 48V					
Rated Speed (RPM)	4800	2400	2400	2400	1600
No-load Speed (RPM)	10000	4500	3500	3300	2900
Rated torque (Nm)	0.145	0.39	0.76	1.69	2.97
Continuous Stall Torque (Nm)	0.183	0.46	0.86	1.88	3.23
Peak torque (Nm)	0.457	1.38	2.59	5.63	9.68
Rated power (W)	73	98	191	425	498
Ke (Vrms/kRPM)	3.21	7.42	9.55	10.15	11.44
Kt (Nm/Arms)	0.053	0.123	0.158	0.168	0.189
Rated current (Arms)	3.14	3.61	5.41	11.19	17.44
Peak current (Arms)	9.68	12.46	18.03	36.47	55.63
Standard inertia (kgcm ²)	0.013	0.047	0.158	0.45	1.6
Stator insulation rating (deg C)	155	155	155	155	155
Stator weight (kg)	0.077	0.172	0.417	0.635	1.193
Rotor weight (kg)	0.027	0.045	0.099	0.158	0.326
Number of poles	6	6	8	10	10
R (ph-ph) (Ohms)	2.41	1.6	0.752	0.244	0.1
L (ph-ph) (mH)	1.4	2.5	1.51	0.74	0.33
Air gap (mm)	0.50	0.50	0.50	0.50	0.76

Custom Designs Available



Motor Dimensions D35

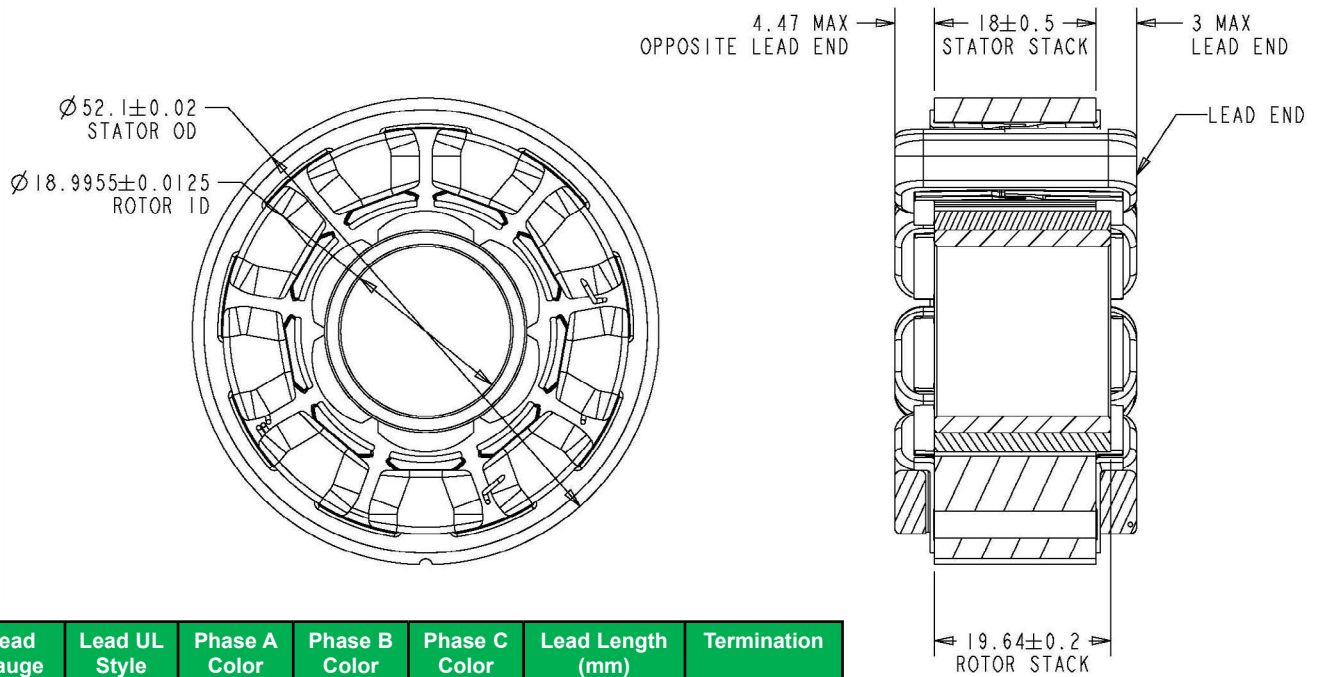


Lead Gauge	Lead UL Style	Phase A Color	Phase B Color	Phase C Color	Lead Length (mm)	Termination
26 AWG	UL 1180	Blue	Brown	Violet	200	None

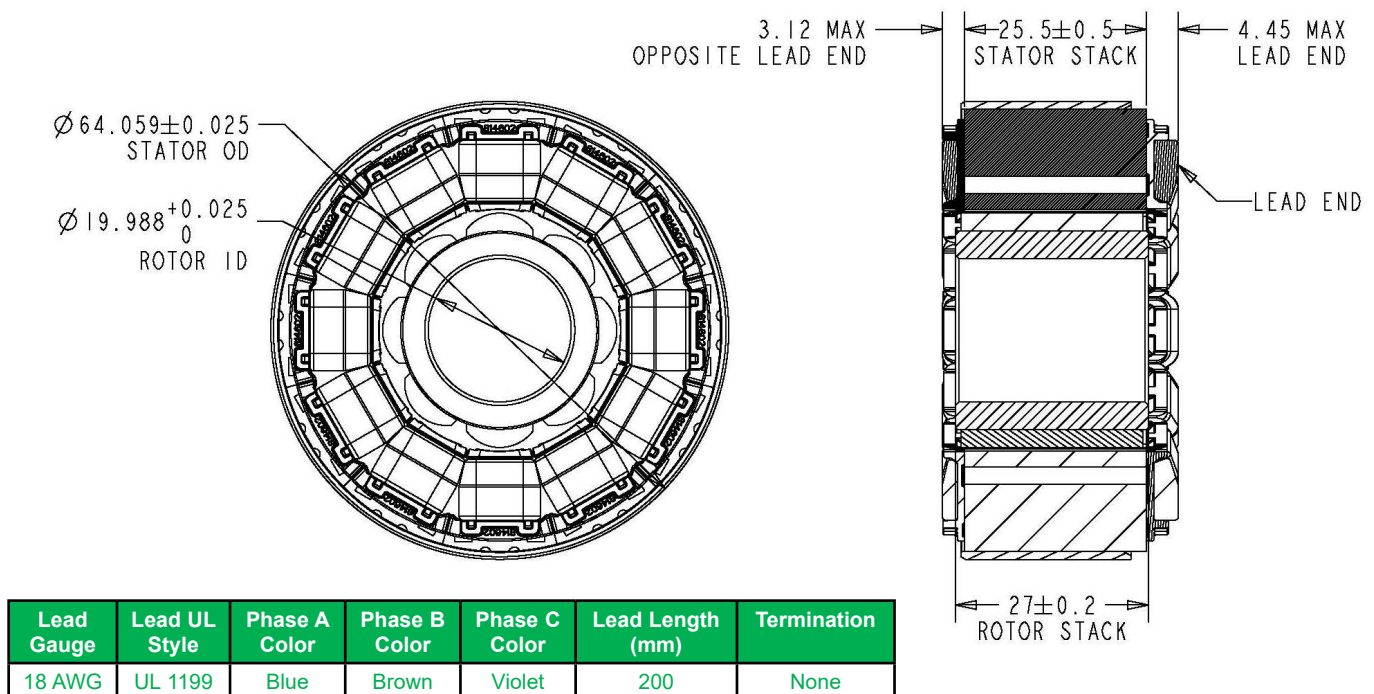
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Motor Dimensions D52



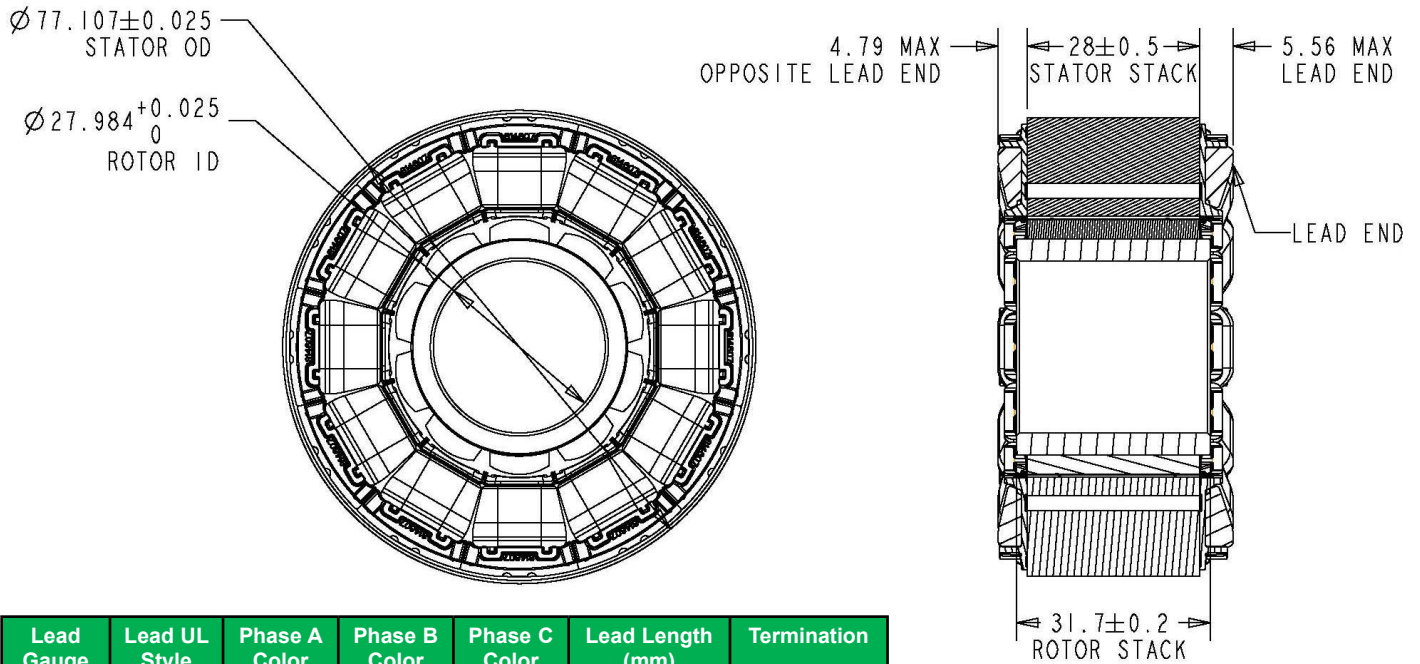
Motor Dimensions D64



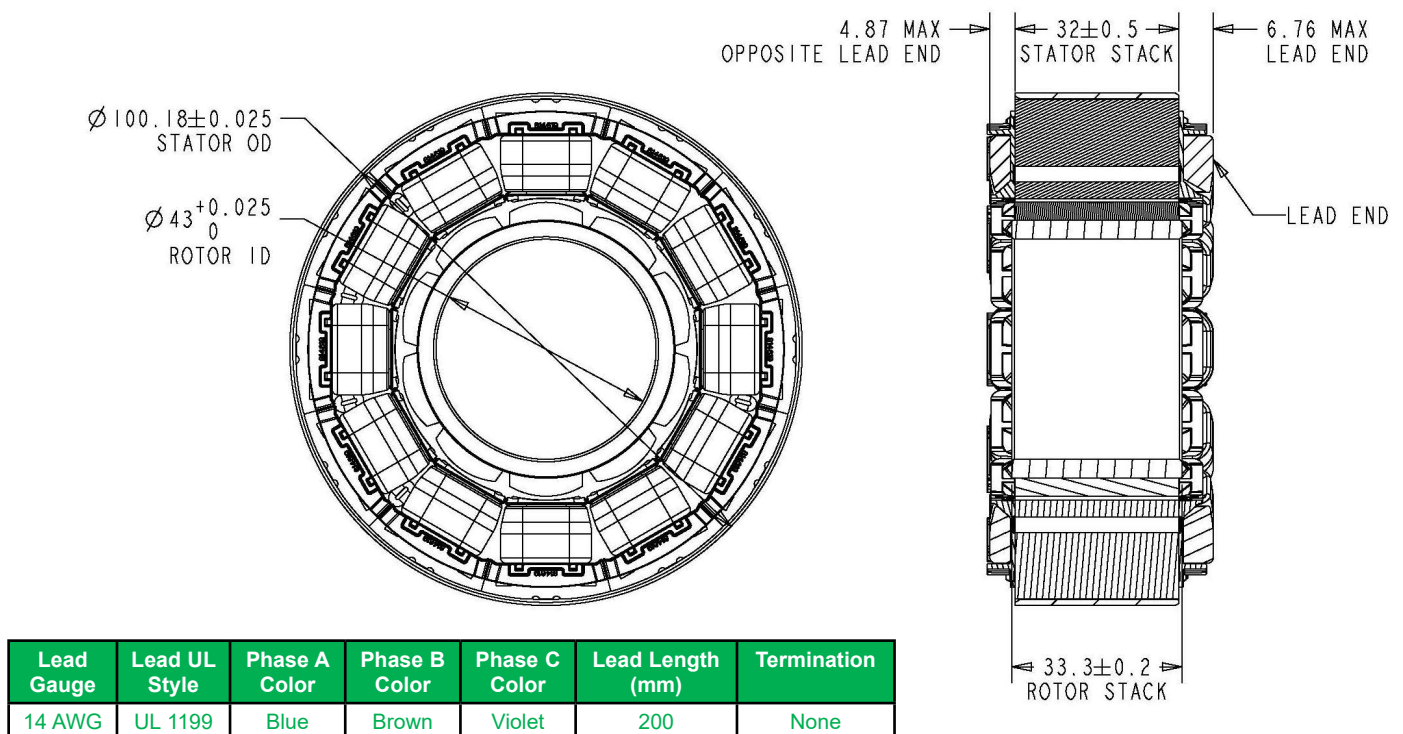
D Series Motors

Frameless Brushless DC Motors

Motor Dimensions D77



Motor Dimensions 100



About Nidec Corporation

Nidec Corporation is an international conglomerate originally known for having the most significant global market share of small precision motors. Exponential growth through mergers and acquisitions over the past few decades means that Nidec now manufactures motors spanning the spectrum from those original tiny motors to much larger motors powering heavy commercial and industrial equipment. This is one of the reasons it's said that Nidec specializes in "everything that spins and moves."

Headquartered in Kyoto, Japan, Nidec started with only four employees in 1973 and has grown to include more than 300 subsidiary companies with over 140,000 workers in over 30 countries across the globe.



Corporate Head Office
Kyoto, Japan

About Nidec Motor Corporation

Nidec Motor Corporation (NMC), a major subsidiary of Nidec Corporation, was formed in 2010 when Nidec Corporation acquired the motors and controls business of Emerson Electric Company. Headquartered in St. Louis, Missouri U.S.A., Nidec Motor Corporation produces a vast array of motors and controls for the appliance, commercial, and industrial sectors. NMC has 10 manufacturing facilities in the U.S., Mexico, the UK and China. Additionally, there are 15 technology, administration and distribution locations in the U.S., Canada, Mexico, Venezuela, Columbia, China and the Philippines.



NIDEC MOTOR CORPORATION



Nidec Motor Corporation
St. Louis, Missouri U.S.A.

About Nidec Motion and Drives

Nidec Motion and Drives is a business unit within NMC specializing in standard and custom brushless DC motors, AC and DC servo motors, frameless motors, and brushed PMDC motors, to name a few. Motion Control designs and mass manufactures sophisticated electric motors and drives/controllers for AGVs, robotics, HVLS fans, marine applications, and many more. Motion Control's customer-centric approach is to serve as a developmental partner, providing innovative solutions for some of the world's most challenging and demanding motor, gearmotor and drive applications.



MOTION & DRIVES

www.NidecMotion.com

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Nidec Motion and Drives strives for personalized service with dedicated project teams that lead and collaborate from concept to design, and from rapid prototyping to production. These teams focus on delivering the right mechanical package for the application, either by leveraging diverse standard platforms or providing a customized solution. Backed by the global network of Nidec expertise and experience, the end result is a quality product that meets customer requirements on time and at the right price.

