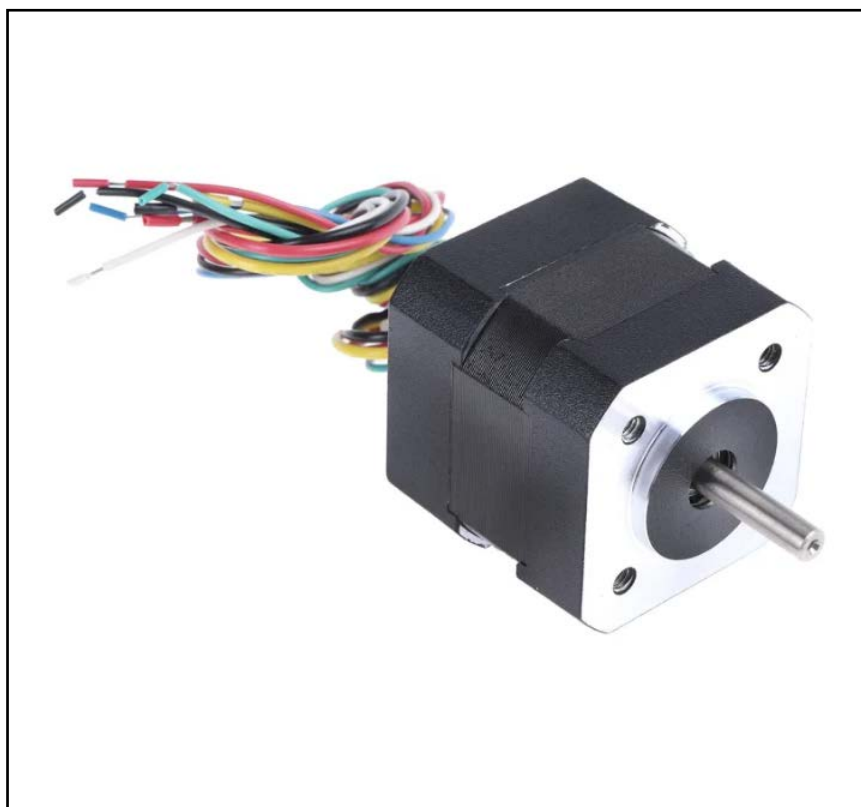


FEATURES

- Hall effect sensors with 120° electrical angle
- 5mm Shaft Diameter
- Speed control feedback via hall sensors
- Class B insulation
- Metal Core

RS PRO Brushless DC Motor, 24 V, 0.19 Nm, 4000 rpm, 5mm Shaft Diameter

RS Stock No.: 536-6024



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

From RS PRO, this brushless DC motor is ideal for a variety of applications. With a sturdy construction from high quality materials, the DC motor delivers efficient power and consistent torque output. As the electric motor is brushless, it uses hall effect sensors to monitor the rotor position and control speed, ensuring greater reliability and efficiency

General Specifications

DC Motor Type	Brushless
Output Speed	4000rpm
Maximum Output Torque	0.19Nm
Typical Housing Material	Stainless steel aluminium flanges
Applications	Vacuum cleaners, Air Compressors, Hair Dryers, Power Tools

Connection

Lead n°	Color	Gauge	Function
1	Red	UL1430 AWG26	Vcc Hall +5 to +24 Vdc
2	Blue		Hall A
3	Green		Hall B
4	White		Hall C
5	Black		GND Hall
6	Yellow	UL1430 AWG20	Phase U
7	Red		Phase V
8	Black		Phase W

Electrical Specifications

Supply Voltage	24V
Power Rating	180W
Current Rating	758mA
No Load Speed	12900rpm
No Load Current	0.055A
Stall Torque	9.44mNm
Stall Current	0.629 A
Maximum Efficiency	80%
Back-EMF Constant	14.8V/1000 rpm
Electrical Phasing	120° electrical
Terminal Resistance	1.8Ohm
Terminal Inductance	2.23mH
Torque Constant	0.035Nm/A
Speed Constant	1700rpm/V
Speed / Torque Gradient	843 rpm/mNm
Mechanical Time Constant	8.85ms
Rotor Inertia	24kgm ² x10 ⁻⁶
No. of Poles	8
No. of Phase	3
Maximum Peak Current	5.4A

Thermal Data

Thermal Resistance Housing-Ambient	29.8 K/W
Thermal Resistance Winding-Housing	5.5 K/W
Thermal Time Constant Winding	4.86s
Thermal Time Constant Motor	288s
Max. Winding Temperature	125°C

Mechanical Specifications

Shaft Diameter	5mm
Core Construction	Graphite; Iron Core; Ironless; Metal; Permanent Magnet; Series Wound
Number of Pole Pairs	1
Number of Commutator Segments	7
Dimensions	41mm x 42mm x 42mm
Length	41mm
Width	42mm
Depth	42mm
Weight	0.3kg
Axial Play	0.05mm to 0.15 mm
Radial Play	0.012mm
Max. Axial Load (Dynamic)	0.8N
Max. Force For Press Fits (Static)	35N
Static, Shaft Supported	200N
Max. Radial Load	1.4N, 5mm from the flange
Rated Torque	0.0625Nm

Operation Environment Specifications

Ambient Temperature	-30°C to 85°C
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Approvals

Compliance/Certifications	CE / CSA
Standards Met	Approved Class B Insulation System; NEMA 23 Mounting; NEMA TEFC Enclosure

Accessories

RS Stock#	Product Name	Description	For Use With
834-7697	Bracket	MFA Como Drills mounting brackets dedicated for use with a wide variety of DC motors	RE 800 Motor, RE 850 Motor

