

Small Brushless DC Motor

KinetiMax 24 EB Brushless DC Motors with Integral Drive

24 mm diameter, 6 mNm max. torque, up to 2.7 W output power

The KinetiMax 24 EB is an extremely compact brushless DC motor with integrated drive electronics. This motor is an outer rotor motor with a robust bearing system capable of handling high side loads.

The KinetiMax 24 EB series employs an external rotor and iron core stator to minimize cogging and maximize output torque.

High quality components ensure an operating life of 20,000 hours minimum. The KinetiMax 24 EB is a good choice for many types of pumps, laser scanners, small high performance fans, blowers and medical applications.

Features & Benefits

- Two wire version is as simple to control as a DC motor, needing only a DC voltage to operate

- Protected against reverse supply voltage
- Low EMI – complies with EN 55014-1/2, 61000-6-1/3
- IP30 level protection sealing

5 Wire version

- Integrated controller with speed adjustment input
- Tachometer output (18 pulses per rev) for speed monitoring
- Input to enable direction reversal

Options

- Customized shaft
- Customized mounting flange
- Custom leads and connector configurations
- Special winding configurations
- Gearbox



- Small precision 24 mm diameter brushless DC motors with integrated drive electronics
- Rated up to 2.7W power output at 4300 RPM nominal speed
- 6, 12 or 24 VDC winding choice

SPECIFICATIONS

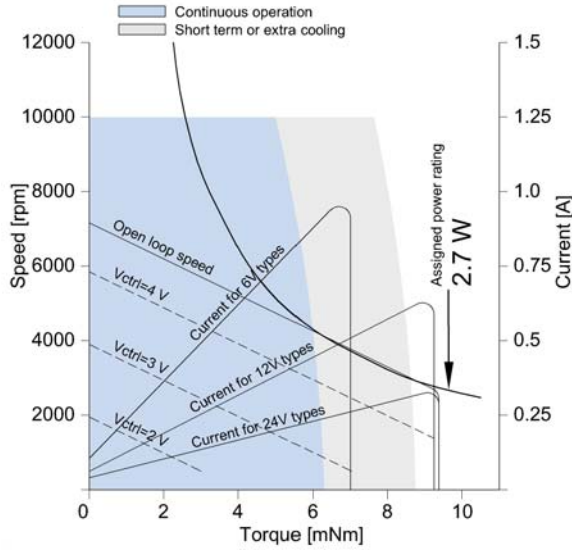
Model	2 Wire	CW ⁽¹⁾	4322 016+	21492	21512	21532
	2 Wire	CCW ⁽¹⁾	4322 016+	21502	21522	21542
	5 Wire		4322 016+	21513	21523	21533
Nominal Voltage			V	6	12	24
Voltage Range ⁽²⁾			V	5.5 - 9	7 - 17	10 - 28
Nominal Output Power			W	2.2	2.7	2.7
Nominal Torque			mNm (oz-in)	5 (0.70)	6 (0.85)	
Max. Torque			mNm (oz-in)	7 (0.99)	9 (1.27)	
Nominal Speed			RPM	4200	4250	4300
No-Load Speed			RPM	7150	7050	7070
Nominal Current			mA	750	445	230
Max. Current			mA	950	630	330
No-Load Current			mA	105	62	40
Torque Constant			mNm/A (oz-in/A)	7.6 (1.07)	15.7 (2.16)	31.4 (4.45)
Rotor Inertia			kgm ² (oz-in-s ²)	0.77 E-6 (1.09 E-4)		
Mechanical Time Constant			ms	47	35	35
Thermal Resist. Housing-Ambient			°C/W	25.5		
Weight			g (oz)	30 (1.06)		
Protection			-	IP30		
Speed Control Input Range ⁽³⁾			V	0 - 5		
Speed Control Input Threshold ⁽³⁾			V	1		
Speed Output Signal ⁽³⁾			PPR	18		
Operating temperature range			°C (F)	0 - 90 (32 - 194)		
Thermal Limit Protection			°C	N/A (Maximum motor housing temperature = 90 °C)		

Notes: Values valid for nominal voltage and T_{amb} = 22 °C; (1) CW for clock rotation, CCW for counter clockwise rotation; (2) Power supply provided with appropriate 68 µF buffer capacitor between supply voltage and common to comply with EN 55014-1/2; (3) Applicable for 5 wire versions only

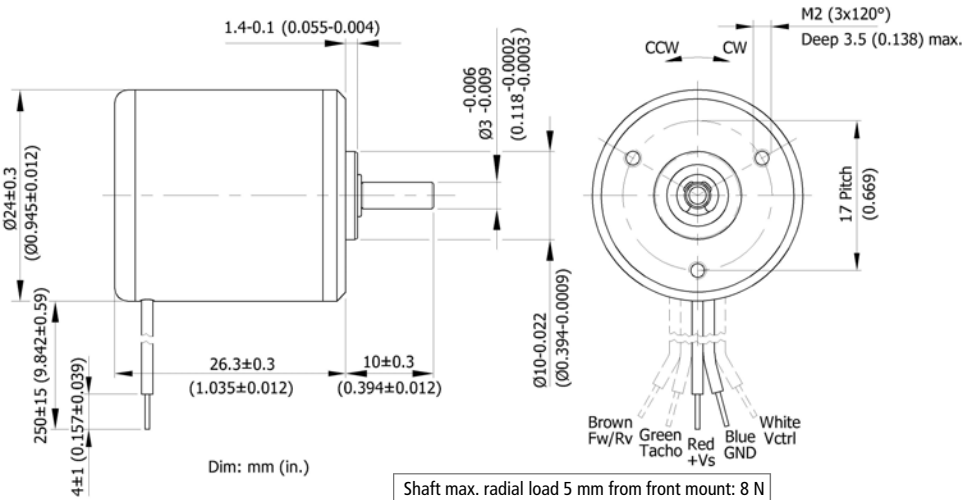
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KinetiMax 24 EB Series BLDC Motors

PERFORMANCE



DIMENSIONS

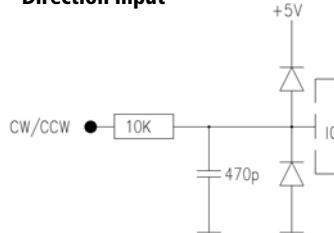


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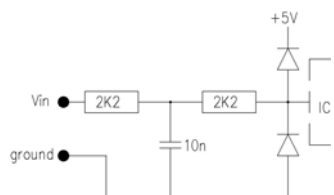
Version	Connection	Color	Size
2-wire	Supply Voltage (Vs)	Red	AWG 26
	Common (ground)	Blue	AWG 26
5-wire	Supply Voltage (Vs)	Red	AWG 26
	Common (ground)	Blue	AWG 26
	Control input (Vin)	White	AWG 26
	Speed output (FG)	Green	AWG 26
	Direction input ¹	Brown	AWG 26

Notes:
 (1) CW @ $\geq 3.5V$, CCW @ $\leq 1.5V$

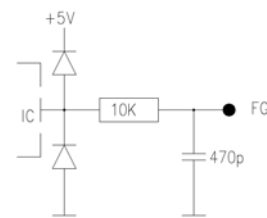
Direction Input



Control Input



Speed Output



Speed Output Signal

