

Brushless DC Motors with Integral Speed Drive

KinetiMax 54 EB Series

54 mm diameter, 30/40 mNm cont. torque, up to 16 W output power

The KinetiMax 54 EB brushless DC motor with integrated speed control drive is an outer rotor motor with a robust bearing system designed to handle high side loads. Two stack height models are available, 30 and 37 mm, with 30 and 40 mNm continuous torque rating, respectively.

High quality components ensure a minimum operating life of 20,000 hours. The outer rotor concept combined with the integrated drive makes this motor ideal for small membrane or peristaltic pumps, high performance fans and blowers, and various medical devices



Options & Accessories

- Custom shaft design
- Custom mounting interface
- Custom leads and/or connector
- IP 54 protection rating
- 500 V isolation capability
- Planetary or spur gearbox on request
- PWM input combined with integrated speed loop, resulting in a speed range from 100 to 4000 RPM

Features & Benefits

- 54 mm dia., outer rotor, brushless DC motor with integrated drive and robust bearing system
- Up to 40 mNm rated torque and 16 W rated output power
- 12 or 24 VDC winding selection
- Integrated speed control loop with a speed set input to adjust motor speed from 300 to 4000 RPM
- Thermal overload protection with automatic recovery
- Rotation direction input (CW/CCW)
- Speed output for speed sensing (36 pulses per rev)
- Reverse supply voltage protection
- Low EMI – complies with EN 55014-1/2, 61000-6-1/3

KinetiMax 54 EB – Specifications 30.4 mm (1.20 in) length units

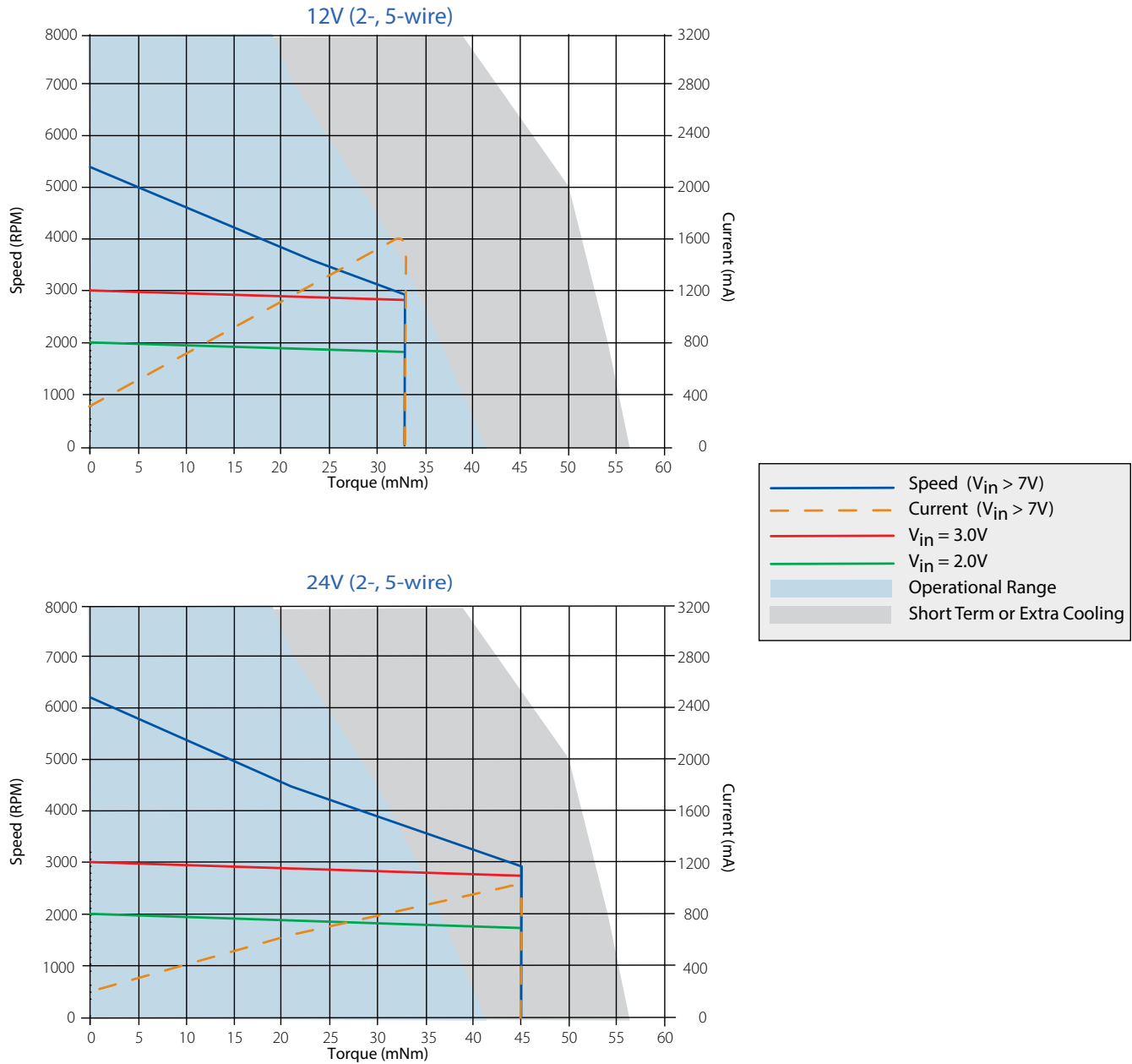
Model		4322-016-48621	4322-016-48622	
Length	mm (in)	30.4 (1.20)		
Voltage	VDC	Nominal	12	24
		Range ¹	10 – 18	10 – 28
Rated Output Power	W	10	12	
Torque	mNm (oz.in.)	Rated	30 (4.25)	
		Max	33 (4.67)	45 (6.37)
Speed	RPM	Rated	3200	3800
		No-load	5400	6200
Current	mA	Rated	1450	800
		Max	1600	1100
		No-load	310	200
Rotor Inertia	kgm ² (oz.in.s ²)	22 E-6 (3.1 E-3)		
Mechanical Time Constant	ms	45		
Thermal Resistance Housing-Ambient	°C/W	8.5		
Weight	g (oz)	200 (7.04)		
Protection Level		IP30		
Gearbox (option)		On request		
Speed-Voltage Input Ratio	RPM/V	1000		
Speed Input	V	Set Point	0 – 7	
		Threshold	0.11	
Direction Input	V	CCW	< 1	
		CW	> 4	
Speed Output Signal	PPR	36		
		Low Time	90 μsec	
Operating Temperature Range	°C (°F)	0 – 90 (32 – 194)		
Thermal Limit Protection ²	°C	90 (194) flange temp. / 80 (176) restart		

Values valid for nominal voltage and $T_{amb} = 22\text{ °C}$

¹ Power supply provided with appropriate 470 μF buffer capacitor between supply voltage and common to comply with EN 55014-1/2.
(See additional EMC information on page 4.)

² Motor temperature measured at aluminum bearing support

KinetiMax 54 EB – Performance 30.4 mm (1.20 in) length units



KinetiMax 54 EB – Specifications 37.25 mm (1.47 in) length units

Model		4322-016-48623	4322-016-48624	
Length	mm (in)	37.25 (1.47)		
Voltage	VDC	Nominal	12	24
		Range ¹	10 – 18	10 – 28
Rated Output Power	W	12	16	
Torque	mNm (oz.in.)	Rated	40 (5.66)	
		Max	40 (5.66)	55 (7.79)
Speed	RPM	Rated	2700	3900
		No-load	4450	6100
Current	mA	Rated	1600	1050
		Max	1600	1300
		No-load	300	240
Rotor Inertia	kgm ² (oz.in.s ²)	31 E-6 (4.4 E-3)		
Mechanical Time Constant	ms	45		
Thermal Resistance Housing-Ambient	°C/W	7.5		
Weight	g (oz)	250 (8.80)		
Protection Level		IP30		
Gearbox (option)		On request		
Speed-Voltage Input Ratio	RPM/V	1000		
Speed Input	V	Set Point	0 – 7	
		Threshold	0.11	
Direction Input	V	CCW	< 1	
		CW	> 4	
Speed Output Signal	PPR	36		
		Low Time	µsec	90
Operating Temperature Range	°C (°F)	0 – 90 (32 – 194)		
Thermal Limit Protection ²	°C	90 (194) flange temp. / 80 (176) restart		

Values valid for nominal voltage and $T_{amb} = 22\text{ °C}$

¹ Power supply provided with appropriate 470 µF buffer capacitor between supply voltage and common to comply with EN 55014-1/2.
(See additional EMC information on page 4.)

² Motor temperature measured at aluminum bearing support

KinetiMax 54 EB – Performance 37.25 mm (1.47 in) length units

