

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

QuickShip Products

Some of the part number configurations for this product are in stock and available for ***immediate delivery!***

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

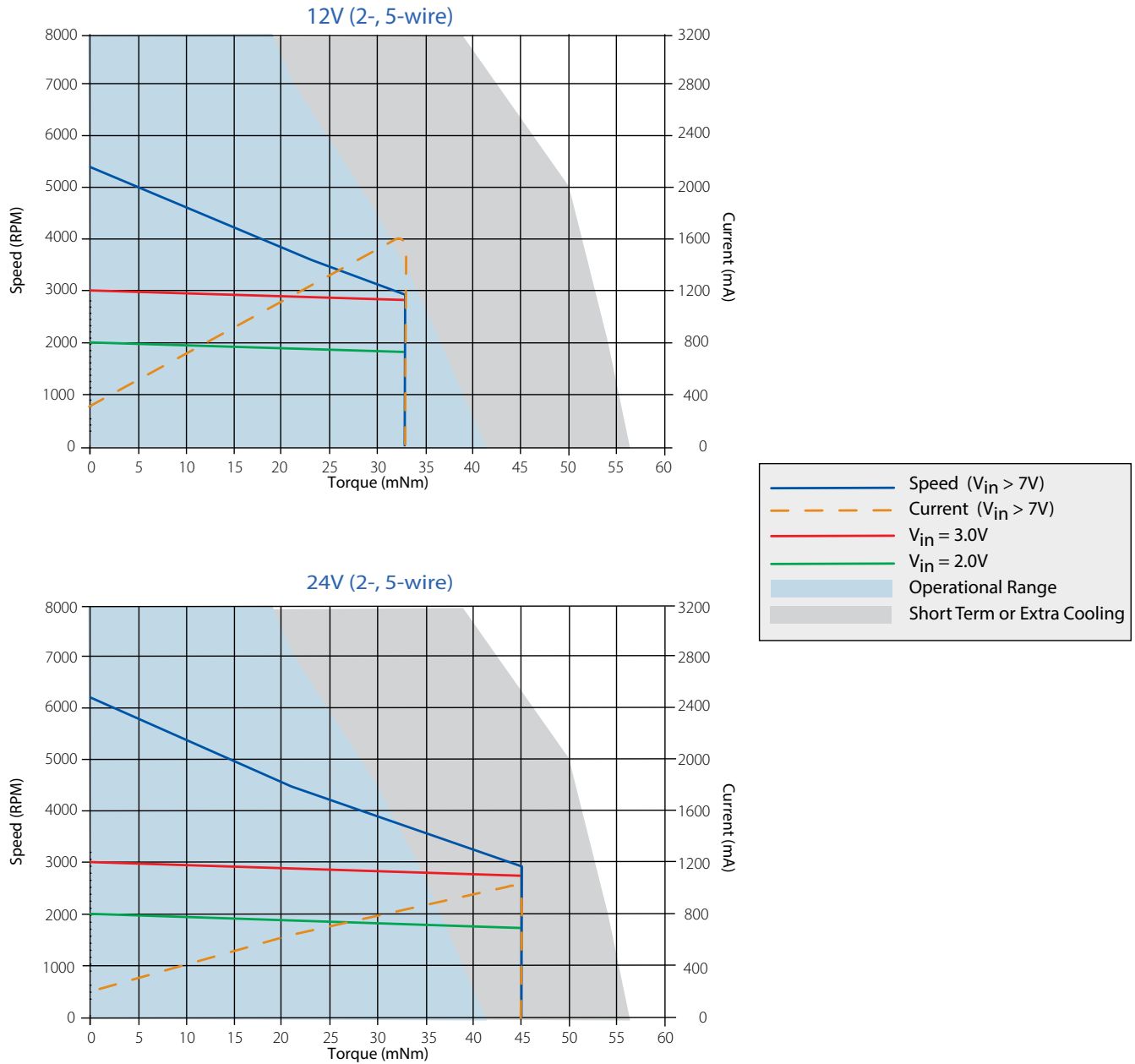
Model		KMX-01648621	KMX-01648622
Length mm (in)		30.4 (1.20)	
Voltage VDC	Nominal	12	24
	Range ¹	10 – 18	10 – 28
Rated Output Power	W	10	12
Torque mNm (oz.in.)	Rated	30 (4.25)	
	Max	33 (4.67)	45 (6.37)
Speed RPM	Rated	3200	3800
	No-load	5400	6200
Current mA	Rated	1450	800
	Max	1600	1100
	No-load	310	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 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 30.4 mm (1.20 in) length units



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

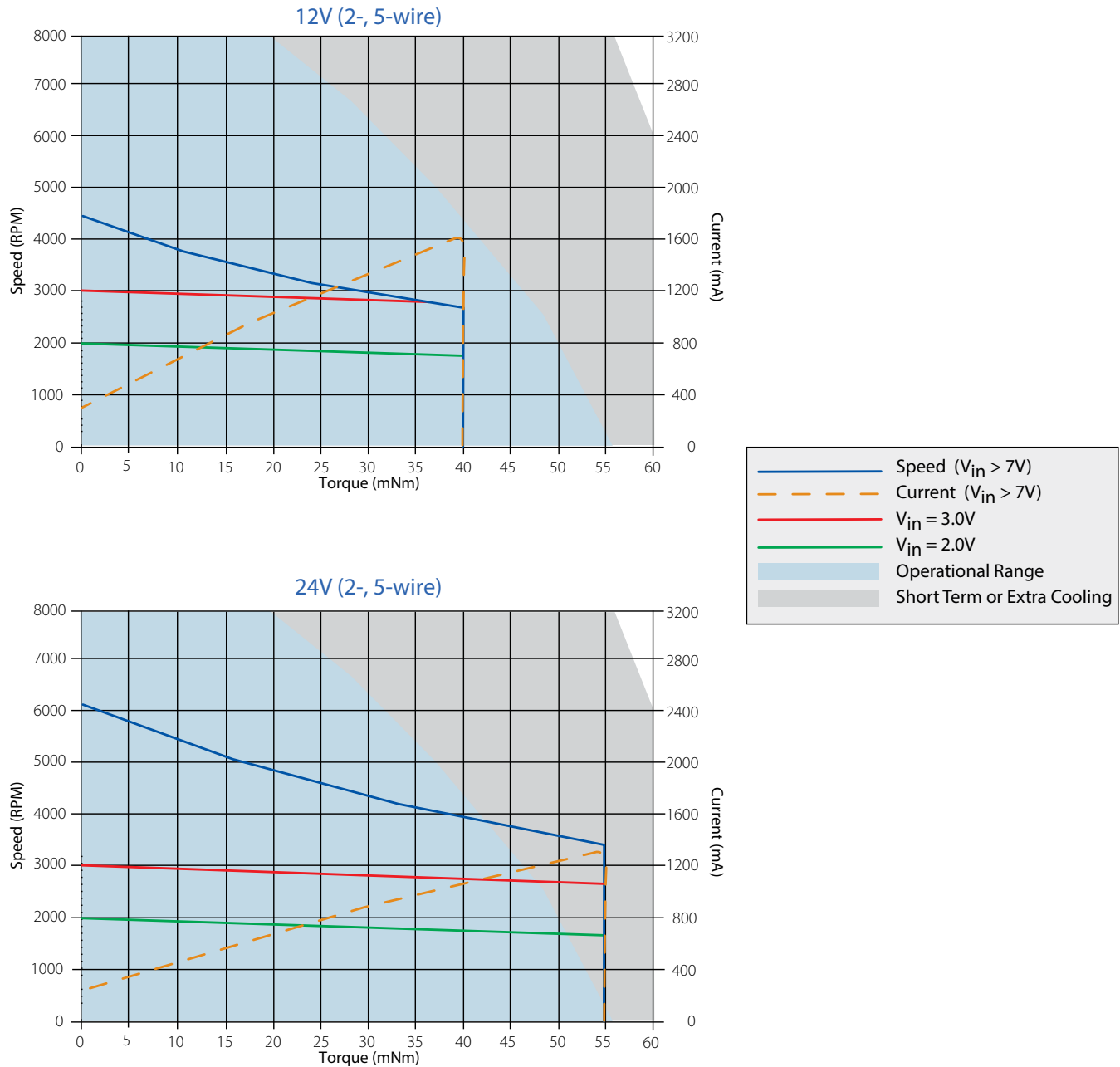
		 KMX-01648623	 KMX-01648624
Model			
Length	mm (in)	37.25 (1.47)	
Voltage	VDC	Nominal	12
		Range ¹	10 – 18
Rated Output Power	W	12	16
Torque	mNm (oz.in.)	Rated	40 (5.66)
		Max	40 (5.66) 55 (7.79)
Speed	RPM	Rated	2700 3900
		No-load	4450 6100
Current	mA	Rated	1600 1050
		Max	1600 1300
	No-load	300 240	
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	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 Tamb = 22 °C

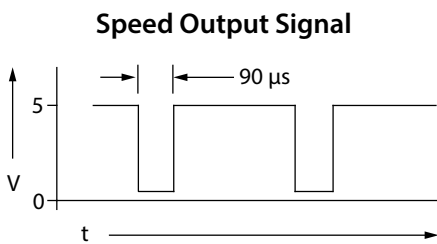
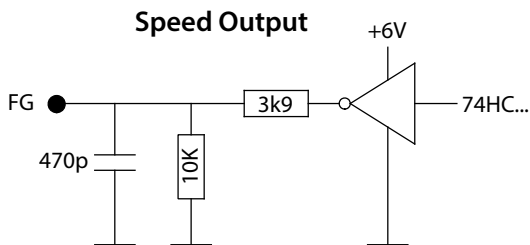
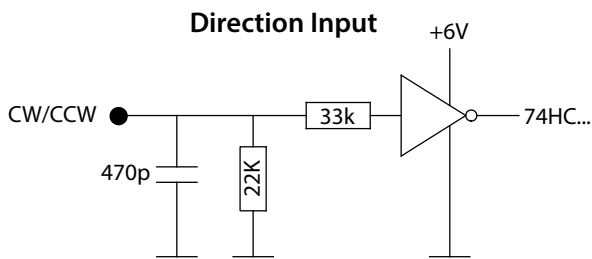
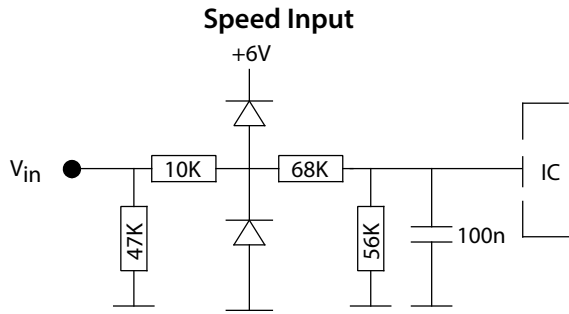
¹ Power supply provided with appropriate 470 µF buffer capacitor between supply voltage and common to comply with EN 55014-1/2.
(See additional EMC information on page 4.)

² Motor temperature measured at aluminum bearing support

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

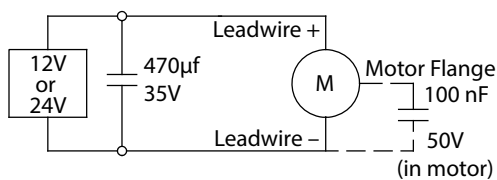


KinetiMax 54 EB – I/O Schematics



EMC

To meet EMC directive EN 55014, the power supply must be provided with a capacitor 470μF, 35V at the output:

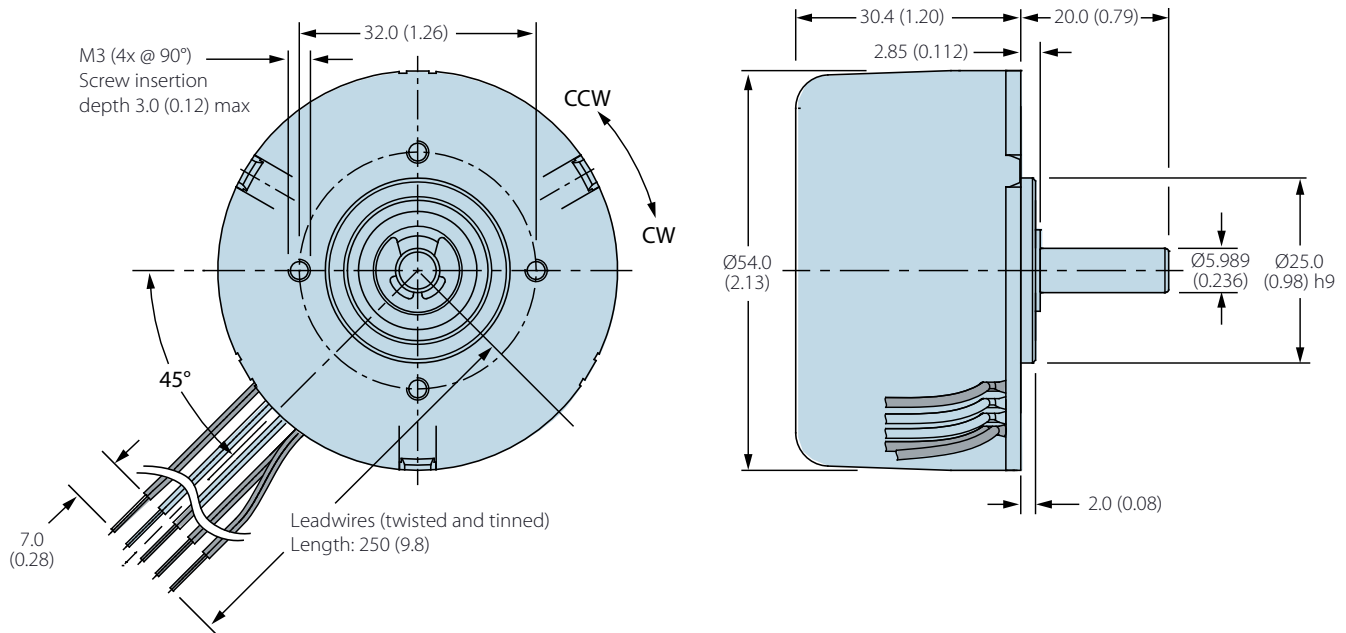


KinetiMax 54 EB – Electrical Connections

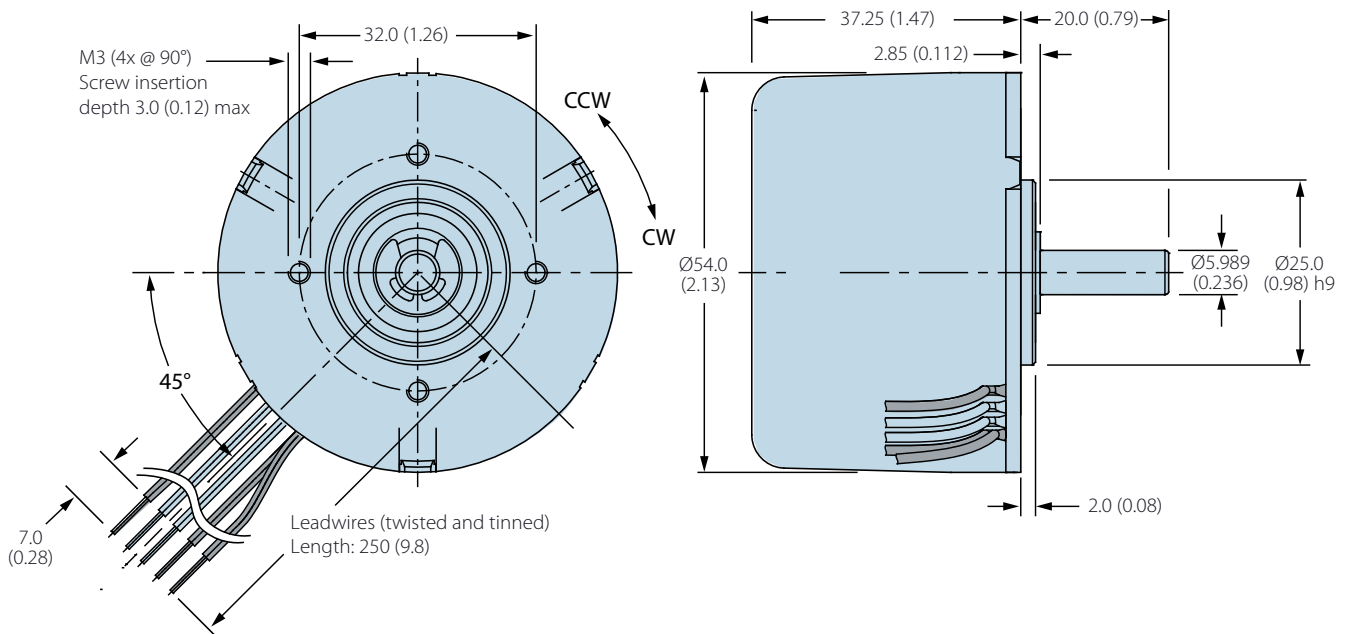
Version	Description	Wire Color (AWG 26)
2-Wire (CW & CCW)	Supply Voltage (+Vs)	Red
	Ground	Blue
5-Wire	Supply Voltage (+Vs)	Red
	Ground	Blue
	Control input (V _{Ctrl} , V)	White
	Speed output (Tach, FG)	Green
	Direction input (CW/CCW)	Brown

KinetiMax 54 EB Dimensions — mm (in)

30.4 mm (1.20 in) length models (2-, 5-Wire)



37.25 mm (1.47 in) length models (2-, 5-Wire)



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