

# Brushless DC Motors with Integral Drive

## KinetiMax 42 EB Series

*42 mm diameter, 70 mNm max. torque, up to 31 W output power*

The KinetiMax 42 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.

High quality components ensure a minimum operating life of 20.000 hours. The continuous output torque of 70 mNm at a constant speed of 4300 RPM makes this motor ideal for small membrane and peristaltic pumps, blower fan and medical applications.



### Options & Accessories

- Customized shaft
- Double shaft version, with front and back shaft
- Customized mounting flange
- Custom leads and connector configurations
- Special winding configurations
- Motor with Hall sensors on
- Encoder and/or gearbox

### Features & Benefits

- 42 mm diameter outer rotor, brushless DC motor with integrated drive and robust bearing system
- Rated 70 mNm (9,9 oz-in) and 31 W output at 4300 RPM
- 12 or 24 VDC winding choice
- Integrated speed control loop with a speed set input to adjust motor speed from 150 to 5000 RPM
- 6-wire version with tachometer output (18 pulses per rev) for speed monitoring, speed input and direction input.
- IP54 level protection sealing
- Thermal overload protection with automatic recovery
- Reverse supply voltage protection
- Low EMI – complies with EN 55014-1/2, 61000-6-1/3

## KinetiMax 42 EB – Specifications

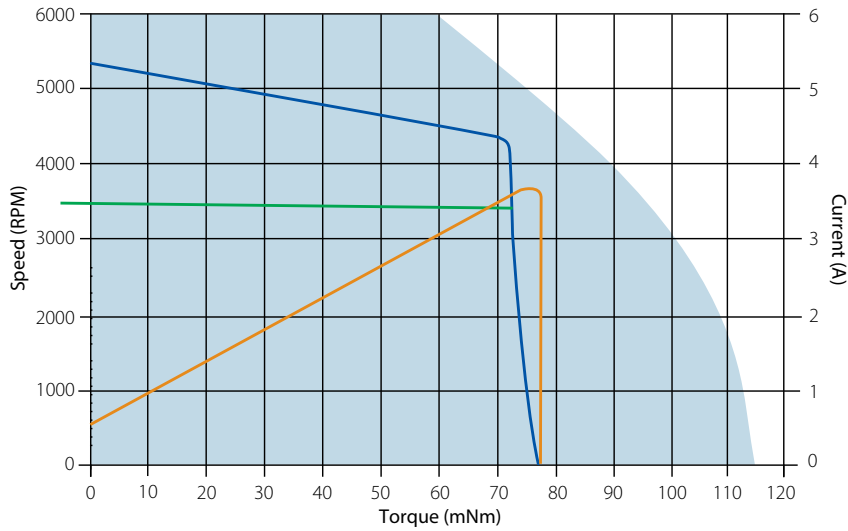
Shaft Diameter	4 mm	4322-016-38002	4322-016-38007
	5 mm	4322-016-38003	4322-016-38008
	6 mm	4322-016-38004	4322-016-38009
Voltage VDC	Nominal	12	24
	Range <sup>1</sup>	10 – 18	10 – 28
Rated Output Power	W	29	32
Torque mNm (oz.in.)	Rated	70 (9.9)	
	Max	72 (10.2)	100 (14.2)
Speed RPM	Rated	4300	
	No-load	5200	5300
Current	Rated	A	3.5
	Max	A	3.6
	No-load	mA	460
Rotor Inertia kgm <sup>2</sup> (oz.in.s <sup>2</sup> )	17.5 E-6 (26 E-4)		
Thermal Resistance °C/W	Housing-Ambient	7.6	
Weight g (oz)	225 (4.0)		
Protection Level	IP54		
Speed Command	Ratio	RPM/V	1000
	Range	V	0 – 7
	Threshold	V	0.1
Direction Input V	CW	Low <1	
	CCW	High >4	
Speed Output	Pulse Rate	PPR	18
	Low Time	µsec	195
Operating Temperature Range °C (°F)			
Thermal Limit Protection	°C (°F)	90 (194 ) flange temp. / 80 (176) restart	

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

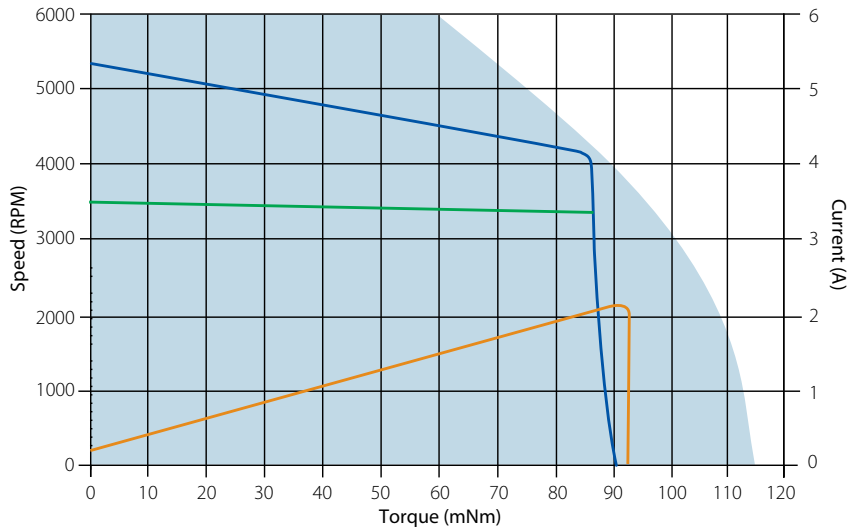
<sup>1</sup> Power supply provided with appropriate 1000 µF buffer capacitor between supply voltage and common to comply with EN 55014-1/2; protection against wrong connection up to ±28 volt

# KinetiMax 42 EB – Performance

## 12V Models



## 24V Models

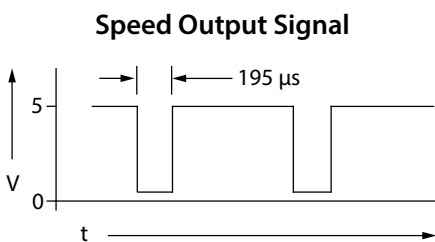
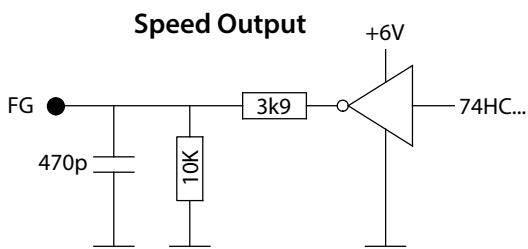
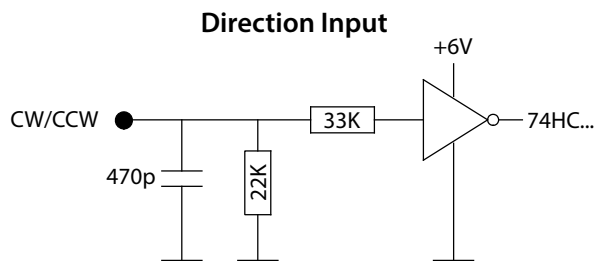
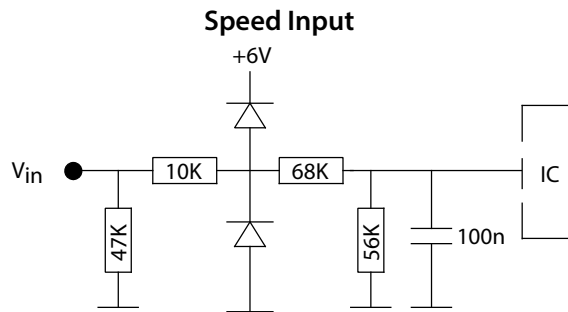


	Open Loop Speed*
	Open Loop Current*
	$V_{in} = 3.5V$
	Continuous Operation **

\* @ Rated Voltage

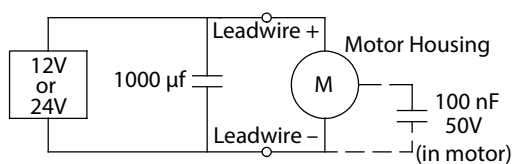
\*\* @ 22°C

## KinetiMax 42 EB – I/O Schematics



### EMC

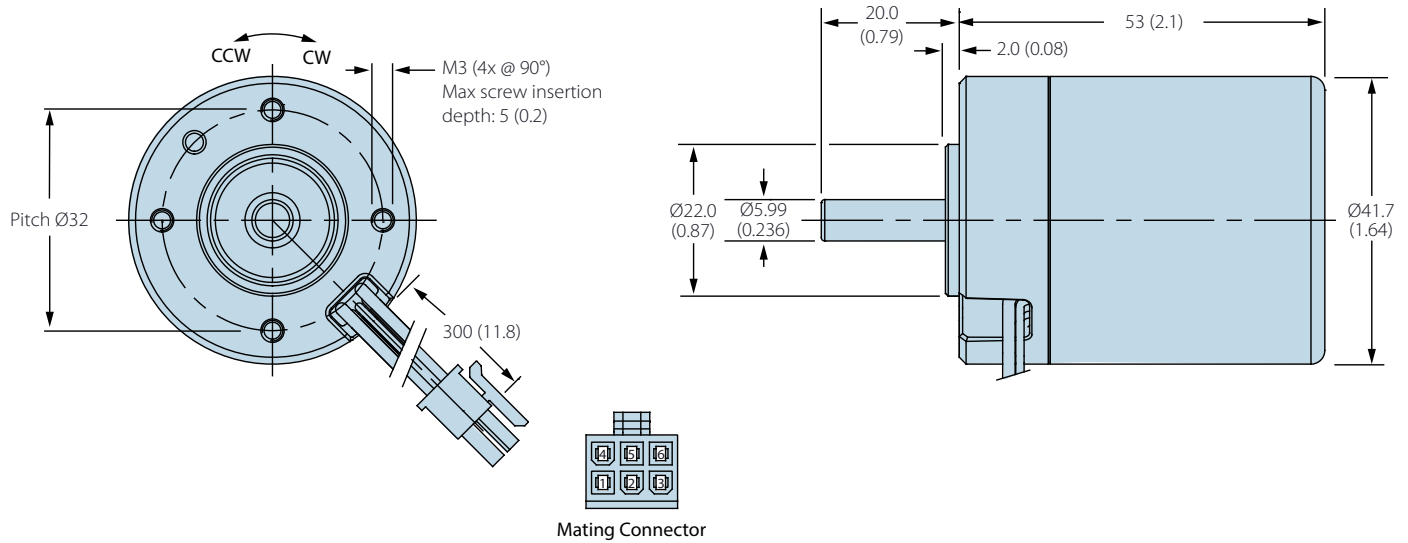
To meet EMC directive EN 55014, the power supply must be provided with a capacitor 1000  $\mu$ f, 35V at the output:



## KinetiMax 42 EB – Electrical Connections

Version	Description	Wire Color (AWG 24)	
6-Wire	1	Supply Voltage	Red
	2	Ground	Black
	3	Tachometer Output (FG)	Green
	4	Speed Control Input ( $V_{in}$ )	White
	5	Direction Input (CW/CCW)	Brown
	6	Shield	Yellow

## KinetiMax 42 EB – Dimensions — mm (in)



Your Distributor:



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