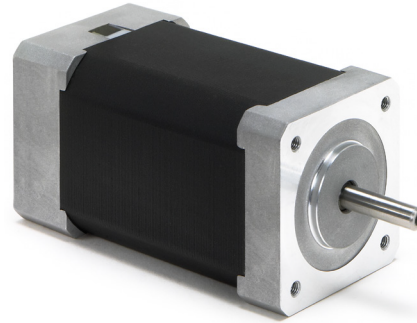


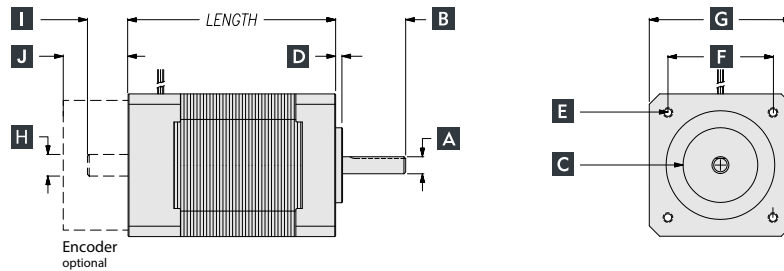
Compact yet powerful.

The ElectroCraft RapidPower™ RP17 is a compact, high-performance and high-speed brushless motor with ball-bearing construction, dynamically balanced rotors, and low audible and magnetic noise. It is compatible with three-phase brushless DC motor drives.

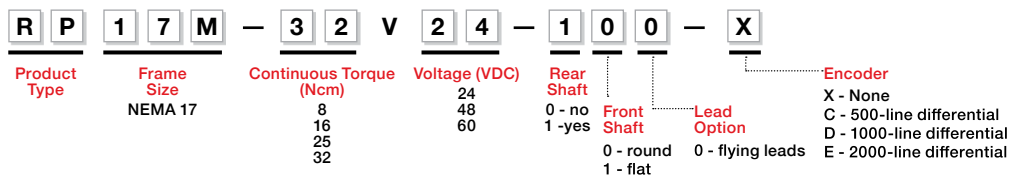


RP17 RapidPower™ BLDC Motor	
Size:	NEMA 17
Peak Torque:	to 136 oz-in or 96 Ncm

Model	MAX Length	A	B	C	D	E	F	G	H	I	J
		Front Shaft Diameter	Front Shaft Length	Pilot Diameter	Pilot Length	Mount Hole Pattern	Mount Hole Spacing	Flange External Dimension	Rear Shaft Diameter	Rear Shaft Length	Differential Encoder Length
RP17M-8	41 mm	5.000 mm (0.1968 in)	20.6 mm (0.81 in)	22.00 mm (0.8660 in)	2 mm (0.08 in)	M3 x 0.5 4.3 mm deep	31 mm (1.22 in)	42 mm (1.65 in)	6.350 mm (0.2500 in)	11.9 mm (0.47 in)	14.0 mm (0.55 in)
RP17M-16	61 mm										
RP17M-25	81 mm										
RP17M-32	101 mm										



RP Model Number



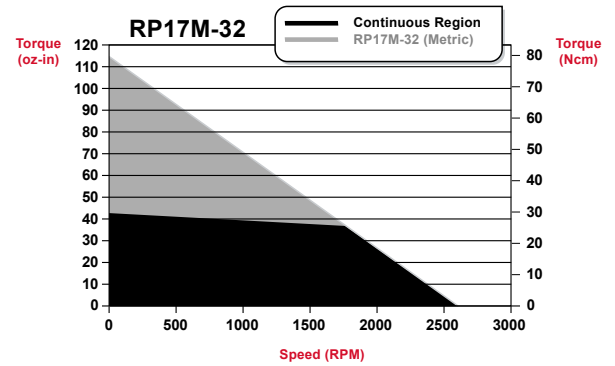
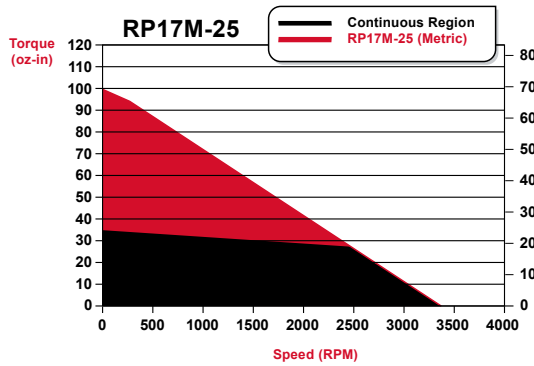
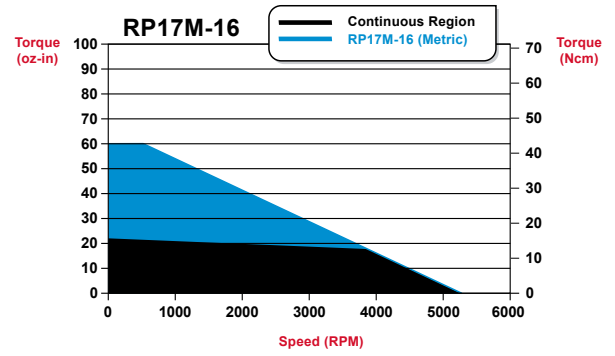
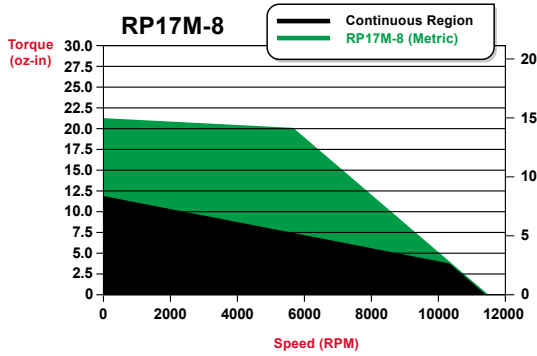
RP17

RapidPower™ BLDC Motor

High torque density - smooth power delivery.



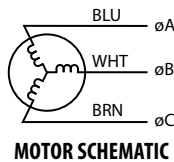
RP17 Speed Torque Performance



RP17 Connection

Sensor Output			Driver Output		
S1	S2	S3	ØA	ØB	ØC
0	0	1	X	HI	LOW
0	1	1	HI	X	LOW
0	1	0	HI	LOW	X
1	1	0	X	LOW	HI
1	0	0	LOW	X	HI
1	0	1	LOW	HI	X

Rotation: CCW Facing Lead End



Hall Pinouts	
Color	Function
ORANGE	+4.5-24 VDC
BLACK	GROUND
YELLOW	S1
GREY	S2
GREEN	S3

Low Profile Encoder Encoder Pinouts	
Color	Function
BLACK	GROUND
ORANGE	CHANNEL Z
YELLOW	CHANNEL A
RED	+5 VDC
BLUE	CHANNEL B
GREEN	S1
BROWN	S2
WHITE	S3
BRN	S2

Differential Encoder	
Character	Lines
C	500 CPR
D	1000 CPR
E	2000 CPR
Encoder Pinouts	
Color	Function
YELLOW	CH A
YEL/WHT	CH A COMP
BLUE	CH B
BLU/WHT	CH B COMP
ORANGE	CH Z
ORG/WHT	CH Z COMP
GREEN	S1
GRN/WHT	NOT USED
BROWN	S2
BRN/WHT	NOT USED
WHITE	S3
GREY/WHT	NOT USED
RED	VCC
BLACK	GROUND
GREY	NOT USED



Your Genius. Our Drive.

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Dover, NH 03820

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Fax: (812) 385-3013

Email: sales@electrocrafter.com
www.electrocrafter.com

RP17 Mechanical / Winding Data

Specifications	Stack Size and Winding Models											
	RP17M-8V24	RP17M-8V48	RP17M-8V60	RP17M-16V24	RP17M-16V48	RP17M-16V60	RP17M-25V24	RP17M-25V48	RP17M-25V60	RP17M-32V24	RP17M-32V48	RP17M-32V60
Design Voltage (VDC)	24	48	60	24	48	60	24	48	60	24	48	60
No load speed (RPM)	11,400			5,300			3,400			2,600		
Peak Torque (oz-in)	22			60			100			136		
Peak Torque (Ncm)	15			42			71			96		
Peak Current (Amps)	7.6	3.8	3.0	9.8	4.9	3.9	10.4	5.2	4.2	11.0	5.5	4.4
Continuous Stall Torque (oz-in)	12			22			36			45		
Continuous Stall Torque (Ncm)	8			16			25			32		
Continuous Stall Current (Amps)	4.2	2.1	1.7	3.6	1.8	1.4	3.7	1.9	1.5	3.6	1.8	1.4
Continuous Rated Torque (oz-in)	4.0	4.0	4.0	17.0	17.5	17.5	29.0	29.0	29.0	37.0	37.0	37.0
Continuous Rated Torque (Ncm)	2.8	2.8	2.8	12.0	12.3	12.3	20.5	20.5	20.5	26.1	26.1	26.1
Continuous Rated Current (Amps)	2.1	1.0	0.6	2.9	1.4	1.2	3.1	1.7	1.2	3.0	1.5	1.2
Continuous Rated Speed (RPM)	10,100	10,400	10,250	3,900	3,900	3,900	2,437	2,437	2,460	1,650	1,485	1,760
Voltage Constant (V / krPM)	2.1	4.2	5.3	4.5	9.0	11.3	7.1	14.2	17.8	9.2	18.4	23.0
Torque Constant (oz-in / Amp)	2.8	5.7	7.2	6.1	12.2	15.2	9.6	19.2	24.1	12.4	24.9	31.1
Torque Constant (Ncm / Amp)	2.0	4.0	5.1	4.3	8.6	10.7	6.8	13.6	17.0	8.8	17.6	22.0
Resistance (Ohms)	0.7	2.7	4.0	1.1	4.4	5.5	1.5	6.4	7.2	2.0	8.5	11.4
Inductance (mH)	0.5	2.3	3.0	1.2	4.8	6.2	1.8	7.2	7.5	2.3	9.2	14.0
Motor Constant (oz-in / √ Watt)	3.5			5.8			8.4			9.0		
Motor Constant (Ncm / √ Watt)	2.5			4.1			5.9			6.4		
Electrical Constant (msec)	0.8			1.1			1.1			1.2		
Mechanical Constant (msec)	8.5			4.4			3.1			2.7		
Rotor Inertia (oz-in-sec ²)	0.0008			0.0012			0.0016			0.0019		
Rotor Inertia (g-cm ²)	53.7			83.3			112.3			134.9		
Thermal Resistance (C / Watts)	6.3			5.5			4.0			3.4		
Weight (oz)	9.0			17.0			23.5			31.0		
Weight (Kg)	0.3			0.5			0.7			0.9		
Length (inch)	1.6			2.4			3.1			3.9		
Length (mm)	40.6			61			78.7			99.1		
Number of Poles	4			4			4			4		

